

Kerr-McGee Oil & Gas Onshore LP 1999 Broadway, Suite 3700 Denver, CO 80205

July 21, 2008

Mrs. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11

NBU 921-15C2S

T9S-R21E

Section 15: NENW

Surface: 834' FNL, 2620' FWL Bottom Hole: 1306' FNL, 1427' FWL

Uintah County, Utah

Dear Mrs. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 921-15C2S is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating
  the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to
  utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Jason K. Rayburn

Landman

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July 22, 2008

RE: NBU 921-15F2S

Kerr-McGee Oil & Gas Onshore, LP, respectfully submits the following revisions to NBU 921-15F2S, specifically changing the name of this location from NBU 921-15F2S to NBU 921-15C2S.

If you have any questions, do not hesitate to contact me at 720.929.6226.

Cordially,

Kevin McIntyre Regulatory Analyst

Kevin.McIntyre@anadarko.com

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### **UNITED STATES** DEPARTMENT OF THE INTERIOR

FORM APPROVED OMB NO. 1004-0137 Expires: July 31, 2010

<ol><li>Lease Serial No.</li></ol>	

BUREAU OF LAND MANA	GEMENI	UTU-01188
APPLICATION FOR PERMIT TO DI	RILL OR REENTER	6. If Indian, Allottee or Tribe Name
MITERIAL TORTER MIT TO DI	GEE ON REETITER	UTE Tribe
1a. Type of Work: X DRILL RE	EENTER	7. If Unit or CA Agreement, Name and No. 891008900A
	<u> </u>	8. Lease Name and Well No.
1b. Type of Well: Gas Well Other	Single Zone X Multiple 2	
2. Name of Operator		9. API Well No.
Kerr-McGee Oil & Gas Ons	shore, LP	43.047-4025
	. Phone No. (include area code)	10. Field and Pool, or Exploratory
P.O. Box 173779 Denver, CO 80217-3779	720.929.6226	Natural Buttes Field
4. Location of well (Report location clearly and In accordan	ice with any State requirements.	*) 11. Sec., T., R., M., or Blk. and Survey or Area
At surface 834 FNL 2620 NE NW Lat.	40.041128 Long109.537	1
At proposed prod. zone <sub>1306</sub> FNL1427 FWL NE NW	40.039831 -109.541	Sec. 15, T 9S, R 21E
14. Distance in miles and direction from the nearest town or p	oost office	12. Cou State
12.9 miles southeast of Ouray, Utah		Uintah Utah
15. Distance from proposed* location to nearest	16. No. of acres in lease	17. Spacing Unit dedicated to this well
property or lease line, ft.	800	40
(Also to nearest drlg. unit line, if any)		
18. Distance from proposed location*	19. Proposed Depth	20. BLM/ BIA Bond No. on file
to nearest well, drilling, completed, 50' applied for, on this lease, ft.	10,285'	RLB0005239
applied for, off this lease, it.		Esti
21. Elevations (Show whether DF. RT, GR, etc.)	22. Aproximate date work v	vill start* mat
4,792' GR	Upon Approval	10 days
	24. Attachments	
The following, completed in accordance with the requirement	s of Onshore Oil and Gas Order	No. 1 shall be attached to this form:
1 W II 1	lan a	
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> </ol>	item 20 above).	e operations unless covered by existing bond on file(see
3. A Surface Use Plan (if the location is on National Forest		ation.
SUPO shall be filed with the appropriate Forest Service O	· 1 ·	pecific information and/ or plans as may be required by t
	authorized office	r.
25. Signature Na	me (Printed/ Typed) Kevin	McIntyre
Title Regulatory Analyst		**************************************
	me (Printed/ Typed)	ER PATHA
Title 07-31-06	BRADLEY G. HIL FICENVIRONMENTAL MANAG	
	ENVINONMENTAL MANAG	cn 27/4
Application approval does not warrant or certify that the applicant ho	lds legal or equitable title to those ri	ghts in the subject lease which would entitle the applicant to
conduct operations thereon.		

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

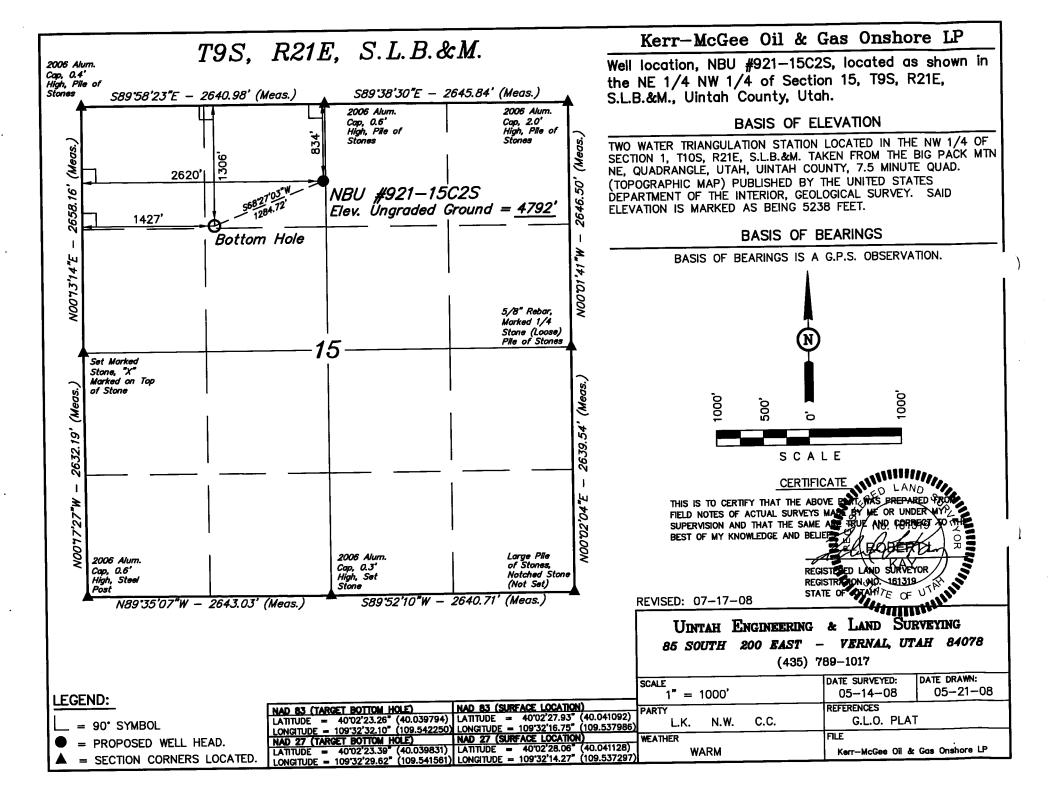
Conditions of approval, if any, are attached.

\* (Instructions on page 2)

824790X 624790X 44331314

40.041076 BHC 624429x 44329804 109.537256 40.039772 -109.541517

JUL 2 3 2008



#### NBU 921-15C2S NENW Sec. 15, T9S,R21E UINTAH COUNTY, UTAH UTU-01188

#### **ONSHORE ORDER NO. 1**

#### DRILLING PROGRAM

#### 1. <u>Estimated Tops of Important Geologic Markers:</u>

Formation	<u>Depth</u>
Uinta	0- Surface
Green River	1712'
Bird's Nest	2039'
Mahogany	2420'
Wasatch	5116'
Mesaverde	8044'
MVU2	9004'
MVL1	9579'
TVD	10,100'
TD	10,285'

#### 2. <u>Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations</u>:

Substance	<b>Formation</b>	<u>Depth</u>
	Green River	1712'
	Bird's Nest	2039'
	Mahogany	2420'
Gas	Wasatch	5116'
Gas	Mesaverde	8044'
Gas	MVU2	9004'
Gas	MVL1	9579'
Water	N/A	
Other Minerals	N/A	

#### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please see the Natural Buttes Unit Standard Operating Procedure (SOP).

#### 4. Proposed Casing & Cementing Program:

Please see the Natural Buttes Unit SOP.

#### 5. <u>Drilling Fluids Program:</u>

Please see the Natural Buttes Unit SOP.

#### 6. <u>Evaluation Program</u>:

Please see the Natural Buttes Unit SOP.

#### 7. <u>Abnormal Conditions</u>:

Maximum anticipated bottomhole pressure calculated at 10,100' TVD, approximately equals 6262 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 4040 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

#### 8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

#### 9. Variances:

Please see Natural Buttes Unit SOP.

Onshore Order #2 - Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is

not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

#### Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A

booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

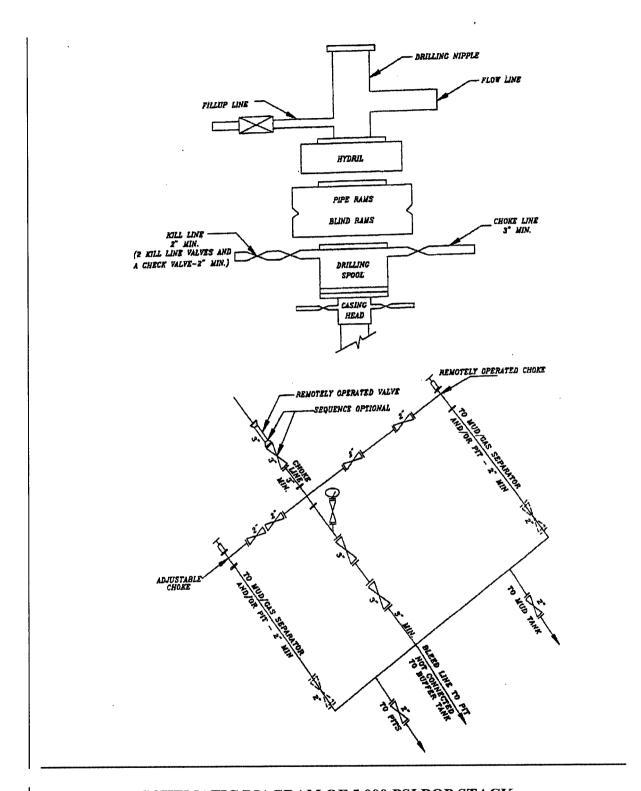
#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

#### 10. Other Information:

Please see Natural Buttes Unit SOP.

#### **EXHIBIT A**



**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK** 

#### NBU 921-15C2S NENW Sec. 15 ,T9S,R21E UINTAH COUNTY, UTAH UTU-01188

#### **ONSHORE ORDER NO. 1**

#### MULTI-POINT SURFACE USE & OPERATIONS PLAN

#### 1. Existing Roads:

Refer to the attached location directions.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

#### 2. Planned Access Roads:

No new access road is planned, as this is a twin location. Refer to Topo Map B.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site.

Please see the Natural Buttes Unit Standard Operating Procedure (SOP).

#### 3. Location of Existing Wells Within a 1-Mile Radius:

Please refer to Topo Map C.

#### 4. Location of Existing & Proposed Facilities:

No new pipeline, as we will be utilizing the existing NBU #298 pipeline. No TOPO D attached.

Please see the Natural Buttes Unit SOP.

#### Variances to Best Management Practices (BMPs) Requested:

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The requested color is Carlsbad Canyon Brown (2.5Y 6/2), a non-reflective earthtone.

Interim Surface Reclamation Plan:

This exception is requested due to the current twin and multi-well program. If determined that this well will not be a candidate for either twinning &/or multi-well the operator shall spread the topsoil pile on the location up to the rig anchor points. The location will be reshaped to the

original contour to the extent possible. The operator will reseed the area using the BLM recommended seed mixture and reclamation methods.

#### 5. Location and Type of Water Supply:

Please see the Natural Buttes SOP.

#### 6. Source of Construction Materials:

Please see the Natural Buttes SOP.

#### 7. Methods of Handling Waste Materials:

Please see the Natural Buttes SOP.

A plastic reinforced liner is to be used as discussed during on-site inspection. It will be a minimum of 20 mil thick and felt, with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit.

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites: RNI, Sec. 5, T9S, R22E, NBU #159, Sec. 35, T9S R21E, Ace Oilfield, Sec. 2, T6S, R20E, MC&MC, Sec. 12, T6S, R19E, Pipeline Facility Sec. 36, T9S, R20E, Goat Pasture Evaporation Pond SW/4 Sec. 16, T10S, R22E, Bonanza Evaporation Pond Sec. 2, T10S, R23E (Request is in lieu of filing Form 3160-5, after initial production).

#### 8. <u>Ancillary Facilities</u>:

Please see the Natural Buttes SOP.

#### 9. Well Site Layout: (See Location Layout Diagram)

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

Location size may change prior to the drilling of the well due to the current rig availability. If the proposed location is not large enough to accommodate the drilling rig. The location will be resurveyed and a form 3160-5 will be submitted.

#### 10. Plans for Reclamation of the Surface:

Please see the Natural Buttes SOP.

upon reclamation of the pit the following seed mixture will be used. A total of 12 lbs/acre will be used if the seeds are drilled (24 lbs/acre if the seeds are broadcast). The per acre requirements for *drilled* seed are:

Crested Wheatgrass 12 lbs.

Operator shall call the BLM for the seed mixture when final reclamation occurs.

#### 11. Surface/Mineral Ownership:

The well pad and access road are located on lands owned by:

Ute Indian Tribe P.O. Box 70 Fort Duchesne, Utah 84026 (435) 722-5141

The mineral ownership is listed below:

United States of America Bureau of Land Management 170 South 500 East Vernal, UT 84078 (435)781-4400

#### 12. Stipulations

#### Wildlife Stipulations:

Antelope Stipulations:
 No construction from May 15 through June 20.

#### **Critical Soils Stipulations:**

No construction when wet.

#### 13. Other Information:

A Class III archaeological survey and a paleontological survey have been performed and will be submitted.

This location is not within 460' from the boundary of the Natural Buttes Unit, nor is it within 460' of any non-committed tract lying within the boundaries of the Unit.

#### 14. <u>Lessee's or Operator's Representative & Certification</u>:

Kevin McIntyre Regulatory Analyst Kerr-McGee Oil & Gas Onshore LP P.O. Box 173779 Denver, CO 80217-3779 (720) 929-6226 Randy Bayne Drilling Manager Kerr-McGee Oil & Gas Onshore LP 1368 South 1200 East Vernal, UT 84078 (435) 781-7018

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under the terms and conditions of the lease for the operations conducted upon leased lands.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Indian Affairs Nationwide Bond #RLB0005239, Bureau of Land Management Nationwide Bold #WYB000291 and State of Utah Bond #RLB0005237.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by the Operator, its contractors, and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

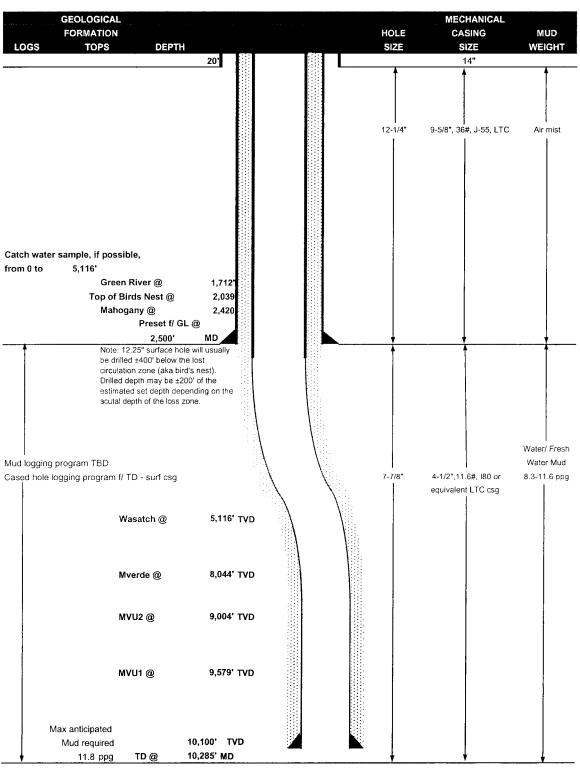
 Kevin McIntyre
 7/17/2008

 Date



#### KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	July 17, 2	2008	
WELL NAME	NBU 921-15C2S	TD	10,100'	TVD	10,285' MD
FIELD Natural Butt	es COUNTY <u>Uintah</u> STATE <u>U</u>	ah	ELEVATION	4,792' GL	KB 4,807'
SURFACE LOCATION	NENW 834' FNL & 2620' FWL, Sec. 15, T 9S R 21E				
	Latitude: 40.041128 Longitude: -109.5	37297		NAD 27	
BTM HOLE LOCATION	NENW 1306' FNL & 1427' FWL, Sec. 15, T 9S R 2	E			
	Latitude: 40.039831 Longitude: -109.5	41561		NAD 27	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: BLM (MINERALS), BIA(SURF	ACE), U	OOGM, Tri-Cou	ınty Health Dept.	





#### .ERR-McGEE OIL & GAS ONSHORE LF DRILLING PROGRAM

#### CASING PROGRAM

									DESIGN FACT	DR\$
	SIZE	INT	ERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0	-40'							
								3520	2020	453000
SURFACE	9-5/8"	0	to	2500	36.00	J-55	LTC	0.89	1.73	6.41
					1			7780	6350	201000
PRODUCTION	4-1/2"	0	to	10100	11.60	I-80	LTC	1.96	1.02	1.93
							1			

- 1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point)
- 2) MASP (Prod Casing) = Pore Pressure at TD (.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD =

11.8 ppg)

.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

MASP 4040 psi

#### CEMENT PROGRAM

		THE OWNER OF LANDING	0.4.0160	EVARAG	WELCHE	VIELD
	FT. OF FILL					YIELD
LEAD	500	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1		+ .25 pps flocele				
TOP OUT CMT (1)	200	20 gals sodium silicate + Premium cmt	50		15.60	1.18
		+ 2% CaCl + .25 pps flocele				
TOP OUT CMT (2)	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
		NOTE: If well will circulate water to sur	face, optio	n 2 will be	utilized	
LEAD	1500	65/35 Poz + 6% Gel + 10 pps gilsonite	360	35%	12.60	1.81
		+.25 pps Flocele + 3% salt BWOW				
TAIL	500	Premium cmt + 2% CaCl	180	35%	15.60	1.18
	į	+ .25 pps flocele				
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
ON LEAD	4,615'	Premium Lite II + 3% KCl + 0.25 pps	440	40%	11.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TAIL	5,670'	50/50 Poz/G + 10% salt + 2% gel	1390	40%	14.30	1.31
	•	+.1% R-3				
	TOP OUT CMT (1),  TOP OUT CMT (2)  LEAD  TAIL  TOP OUT CMT	TOP OUT CMT (1): 200  TOP OUT CMT (2): as required  LEAD: 1500  TAIL: 500  TOP OUT CMT: as required  DN: LEAD: 4,615'	TOP OUT CMT (1)   200   Premium cmt + 2% CaCl	TOP OUT CMT (1)   200   20 gals sodium silicate + Premium cmt   50	TOP OUT CMT (1)   200   Premium cmt + 2% CaCl   + .25 pps flocele   20 gals sodium silicate + Premium cmt   50   + 2% CaCl + .25 pps flocele   as required   Premium cmt + 2% CaCl   as req.	TOP OUT CMT (1)   200   Premium cmt + 2% CaCl   + .25 pps flocele   200 gals sodium silicate + Premium cmt   50   15.60   + .2% CaCl + .25 pps flocele   200 gals sodium silicate + Premium cmt   50   15.60   + .2% CaCl + .25 pps flocele   200 gals sodium silicate + Premium cmt   50   15.60   15.60   Premium cmt + 2% CaCl   200 gals sodium silicate + Premium cmt   200 gals per flocele   200 gals sodium silicate + Premium cmt   200 gals possible   200 gals possib

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE PRODUCTION	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe.	
	Float shoe, 1 jt, float collar. Centralize first 3 joints & every third joint to top of tail cement with bow	
	spring centralizers.	············

#### ADDITIONAL INFORMATION

D/	NDE: 11" 5M with one and	nular and 2 rams. Test to 5,000 psi (annular to 2,500 psi) prior	to drilling out. Record on chart recorder &
tou	ir sheet. Function test rai	ms on each trip. Maintain safety valve & inside BOP on rig floo	or at all times. Kelly to be equipped with upper
&	ower kelly valves.		
Dr	op Totco surveys every 2	000'. Maximum allowable hole angle is 5 degrees.	
Mo	st rigs have PVT System	for mud monitoring. If no PVT is available, visual monitoring w	ill be utilized.
ING E	NGINEER:		DATE:
		Brad Laney	
.ING SI	JPERINTENDENT:	Brad Laney	DATE:

NBU 921-15C2S.xls

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

### Kerr-McGee Oil & Gas Onshore LP

NBU #921-15D1S, #921-15C2S, #921-15C4T & #921-15G2S SECTION 15, T9S, R21E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; TURN LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 1.8 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION APPROXIMATELY 3.8 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN RIGHT AND PROCEED IN A SOUTHEASTERLY, THEN EASTERY DIRECTION APPROXIMATELY 1.8 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; SOUTHEASTERLY DIRECTION PROCEED Α INLEFT AND APPROXIMATELY 3.2 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION APPROXIMATELY 1.8 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION APPROXIMATELY 0.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHWEST; TURN LEFT AND PROCEED IN A NORTHWESTERLY DIRECTION APPROXIMATELY 0.2 MILES TO THE EXISTING NBU #298 AND THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 43.9 MILES.

### Kerr-McGee Oil & Gas Onshore LP

NBU #921-15D1S, #921-15C2S, #921-15C4T & #921-15G2S

LOCATED IN UINTAH COUNTY, UTAH SECTION 15, T9S, R21E, S.L.B.&M.

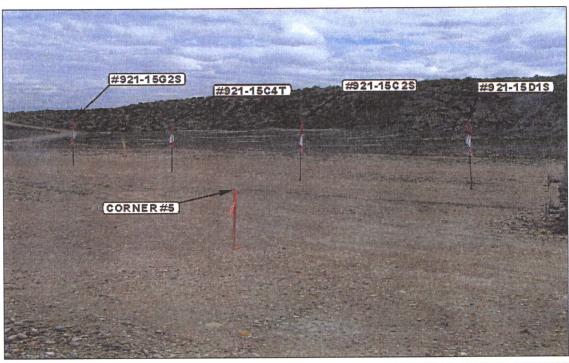


PHOTO: VIEW FROM CORNER #5TO LOCATION STAKES

CAMERA ANGLE: SOUTHEASTERLY



PHOTO: VIEW OF EXISTING ACCESS

CAMERA ANGLE: NORTHWESTERLY



LOCATION PHOTOS

05 21 08 month day year

**PHOTO** 

TAKEN BY: L.K. DRAWN BY:C.C. REV: 07-17-08 C.C.

## Kerr-McGee Oil & Gas Onshore LP SITE PLAN LAYOUT FOR NBU #921-15D1S, #921-15C2S, #921-15C4T & #921-15G2S SECTION 15, T9S, R21E, S.L.B.&M. (Z

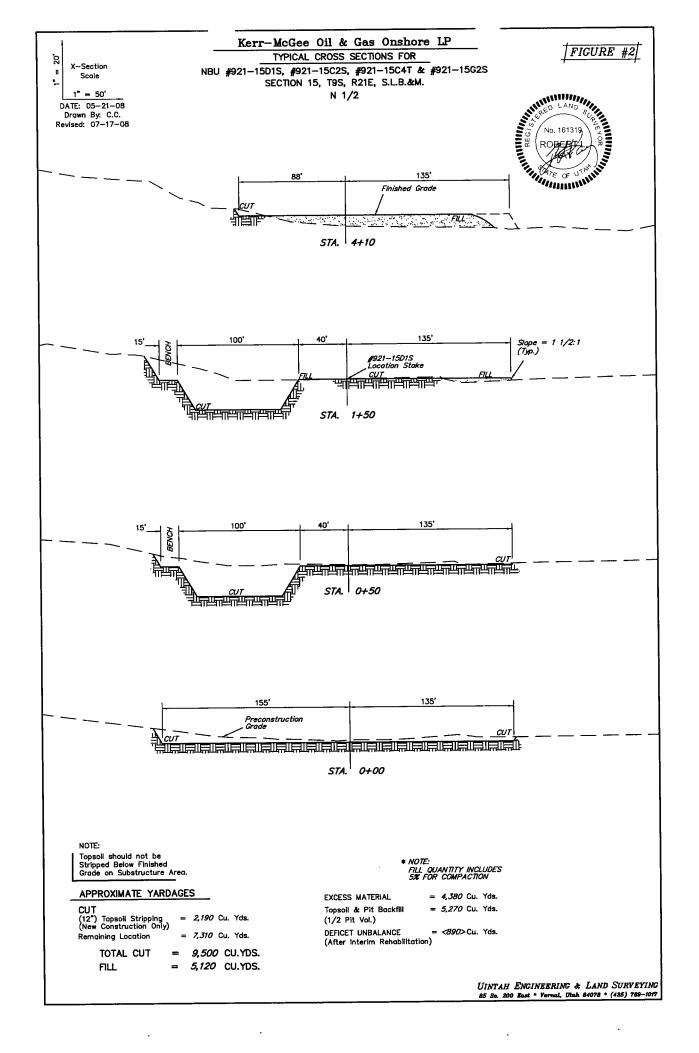
FIGURE #1

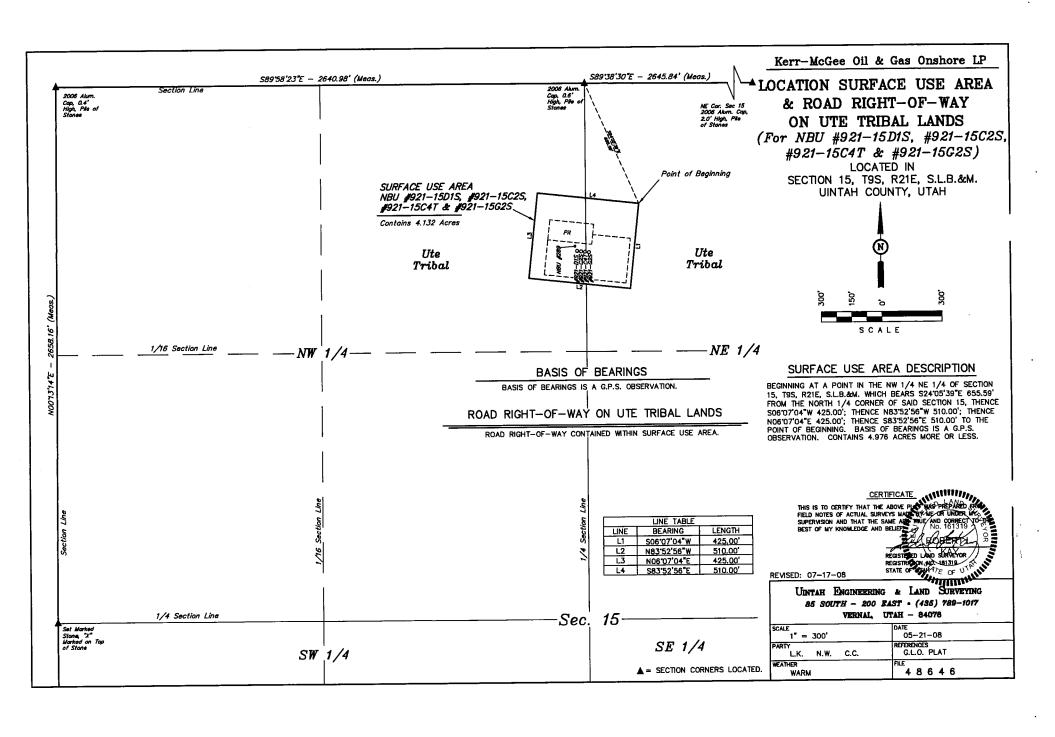


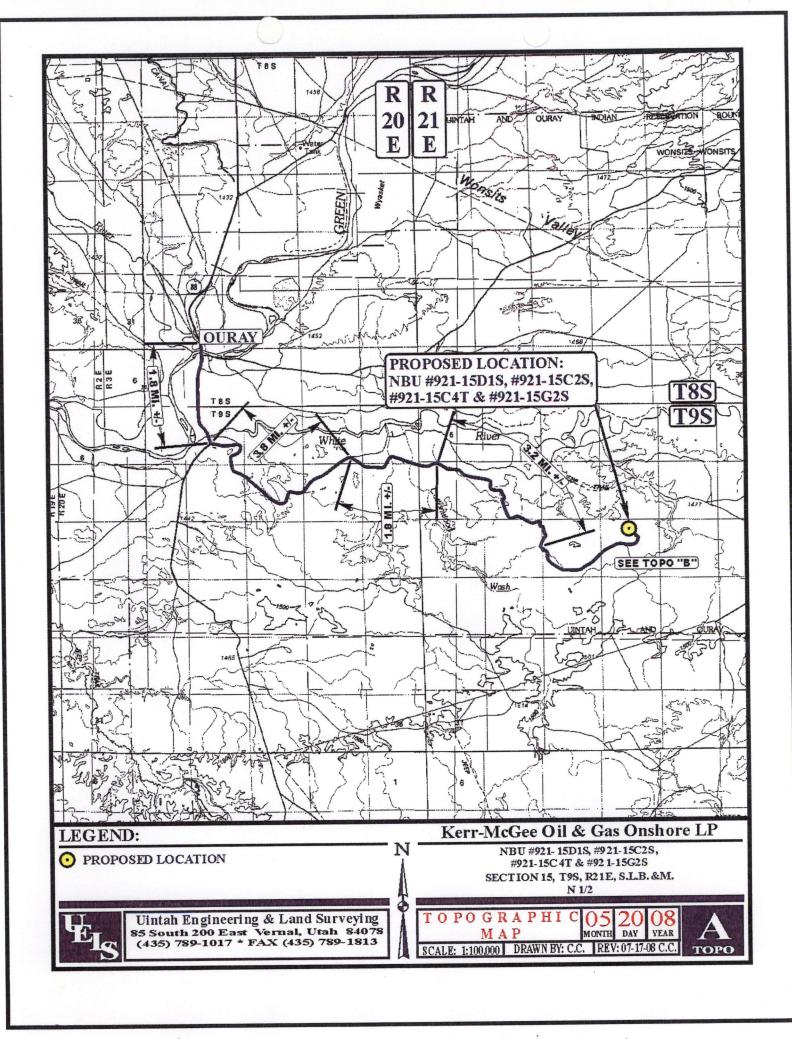
SCALE: 1" = 50' DATE: 05-21-08 Drawn By. C.C. Revised: 07-17-08 Existing Access
Road C-2.3' 5.0 El. 94.3 ji 87.0 Topsoil Stockpile Sta. 4+10 88 F-3.6 8 El. 88.4 Approx. Toe of Fill Slope Existing Pipeline 200, 190 NOTE:
Earthwork Calculations Require a
Fill @ #921—15F2S, #921—15C4T &
#921—15G2S Location Stakes For
Balance. All Fill is to be
Compacted to a Minimum of 95%
of the Maximum Dry Density
Obtained by AASHTO Method t—99. Existing Pad F-0.7 F-0.8 El. 91.3 El. 91.2 El. 93.7 C-11.7' (btm. plt) RESERVE PITS (10' Deep) Sta. 1+50 Existing Well F-0.8' TOILET -0.2 BENCH/DIKE El. 91.2' Pit Backfills S Stockpile. TRAILER 220 ппп LIGHT PLANT BOILER Reserve P WIDE WATER O 15, <u>Sta</u>. 0<u>+00</u> 4 /- -C-1.1' 15' WIDE BENCH/DIKE 2 C-1.4'El. 96.0 A El. 93.4' C-14.0' Approx. Pit Topsoil .... EI. 93.1' Top of Cut Slope

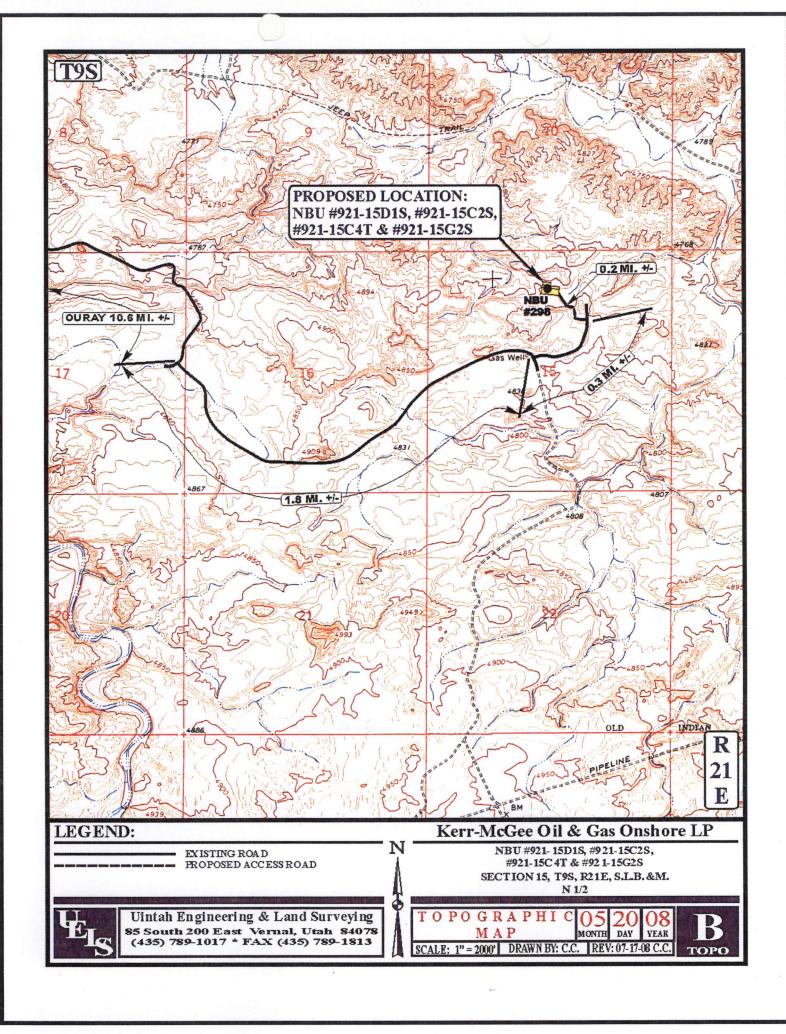
N 1/2

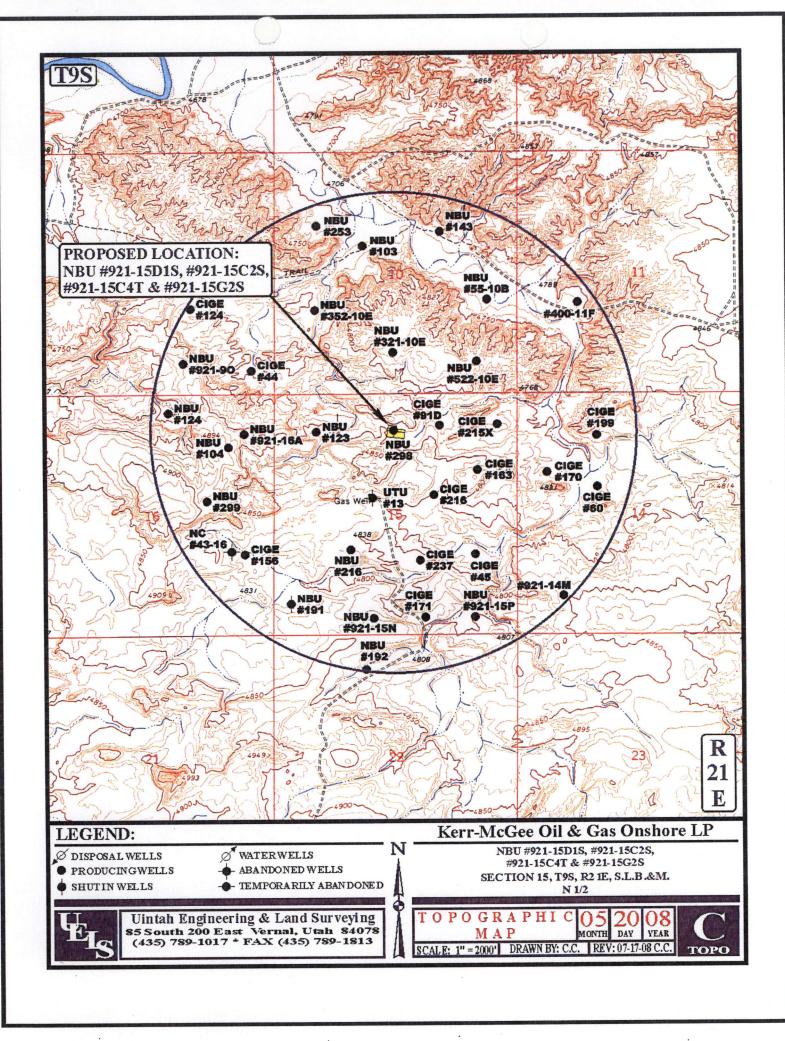
#### NOTES:





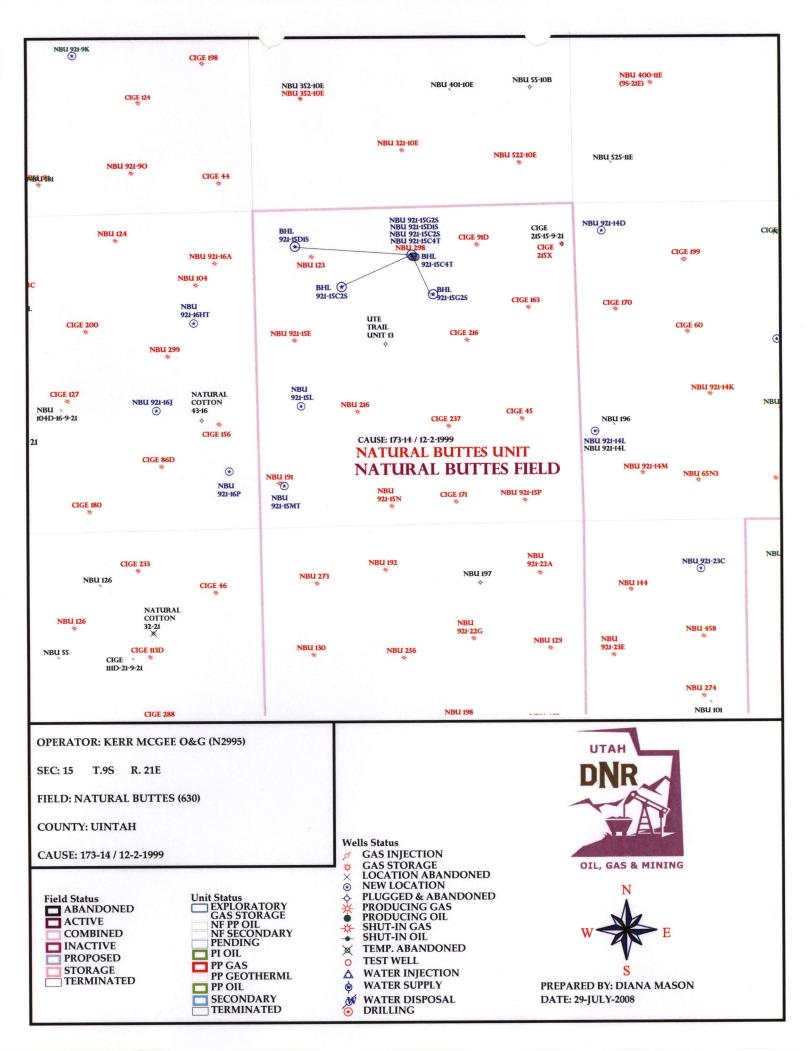






# WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 07/23/2008	API NO. ASSIG	GNED: 43-047	-40252
WELL NAME: NBU 921-15C2S  OPERATOR: KERR-MCGEE OIL & GAS ( N2995 )  CONTACT: KEVIN MCINTYRE	PHONE NUMBER:	720-929-6226	5
PROPOSED LOCATION:	INSPECT LOCATN	BY: /	/
NENW 15 090S 210E SURFACE: 0834 FNL 2620 FWL	Tech Review	Initials	Date
BOTTOM: 1306 FNL 1427 FWL	Engineering		
COUNTY: UINTAH	Geology		
LATITUDE: 40.04108 LONGITUDE: -109.5373  UTM SURF EASTINGS: 624790 NORTHINGS: 4433131	Surface		
FIELD NAME: NATURAL BUTTES (630)  LEASE TYPE: 1 - Federal  LEASE NUMBER: UTU-01188  SURFACE OWNER: 2 - Indian	PROPOSED FORMA COALBED METHAN		VD
Plat  ———————————————————————————————————	R649-2-3.  : NATURAL BUTTES  R649-3-2. General Siting: 460 From Quantity  R649-3-3. Exception Drilling Unit Board Cause Note Eff Date: Siting: 460 Sit	ral etr/Otr & 920' B otion :	99 Committee
STIPULATIONS: 1- Land Opposit	)		



### **United States Department of the Interior**

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

July 29, 2008

#### Memorandum

To:

Assistant District Manager Minerals, Vernal District

From:

Michael Coulthard, Petroleum Engineer

Subject:

2008 Plan of Development Natural Buttes Unit Uintah

County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following well is planned for calendar year 2008 within the Natural Buttes Unit, Uintah County, Utah. This well was previously submitted as 43-047-40234, NBU 921-15F2S, which was been rescinded (see our memo dated July 18, 2008).

API #

WELL NAME

LOCATION

(Proposed PZ Wasatch/MesaVerde)

43-047-40252 NBU 921-15C2S Sec 15 T09S R21E 0834 FNL 2620 FWL BHL Sec 15 T09S R21E 1306 FNL 1427 FWL

This office has no objection to permitting the well at this time.

/s/ Michael L. Coulthard

bcc:

File - Natural Buttes Unit

Division of Oil Gas and Mining

Central Files Agr. Sec. Chron Fluid Chron

MCoulthard:mc:7-29-08



# State of Utah DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

July 31, 2008

Kerr-McGee Oil & Gas Onshore, LP P O Box 173779 Denver, CO 80217-3779

Re:

NBU 921-15C2S Well, Surface Location 834' FNL, 2620' FWL, NE NW, Sec. 15, T. 9 South, R. 21 East, Bottom Location 1306' FNL, 1427' FWL, NE NW, Sec. 15, T. 9 South, R. 21 East, Hintel County, High

T. 9 South, R. 21 East, Uintah County, Utah

#### Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann.§ 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-40252.

Sincerely,

Gil Hunt

Associate Director

pab Enclosures

cc:

**Uintah County Assessor** 

Bureau of Land Management, Vernal Office



Operator: Kerr-McGee Oil & Gas Onshore, LP						
Well Name & Number	NBU 92	21-15C2S				
API Number:	43-047-	40252				
Lease:	UTU-01188					
Surface Location: NE NW	Sec. 15	<b>T.</b> <u>9 South</u>	<b>R.</b> 21 East			
<b>Bottom Location:</b> NE NW	Sec. 15	T. 9 South	<b>R.</b> 21 East			

#### **Conditions of Approval**

#### 1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### 2. Notification Requirements

Notify the Division with 24 hours of spudding the well.

• Contact Carol Daniels at (801) 538-5284.

Notify the Division prior to commencing operations to plug and abandon the well.

• Contact Dustin Doucet at (801) 538-5281 office (801) 733-0983 home

#### 3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

- 4. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.
- 5. In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.
- 6 In accordance with Order in Cause No. 190-5(b) dated October 28, 1982, the Operator shall comply with requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operator shall ensure that the surface and/or production casing is properly cemented over the entire oil shale interval as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the Division.

Form 3160-5 (August, 2007)

### **UNITED STATES** DEPARTMENT OF THE INTERIOR

FOR	MΑ	PP	RO	VE	E

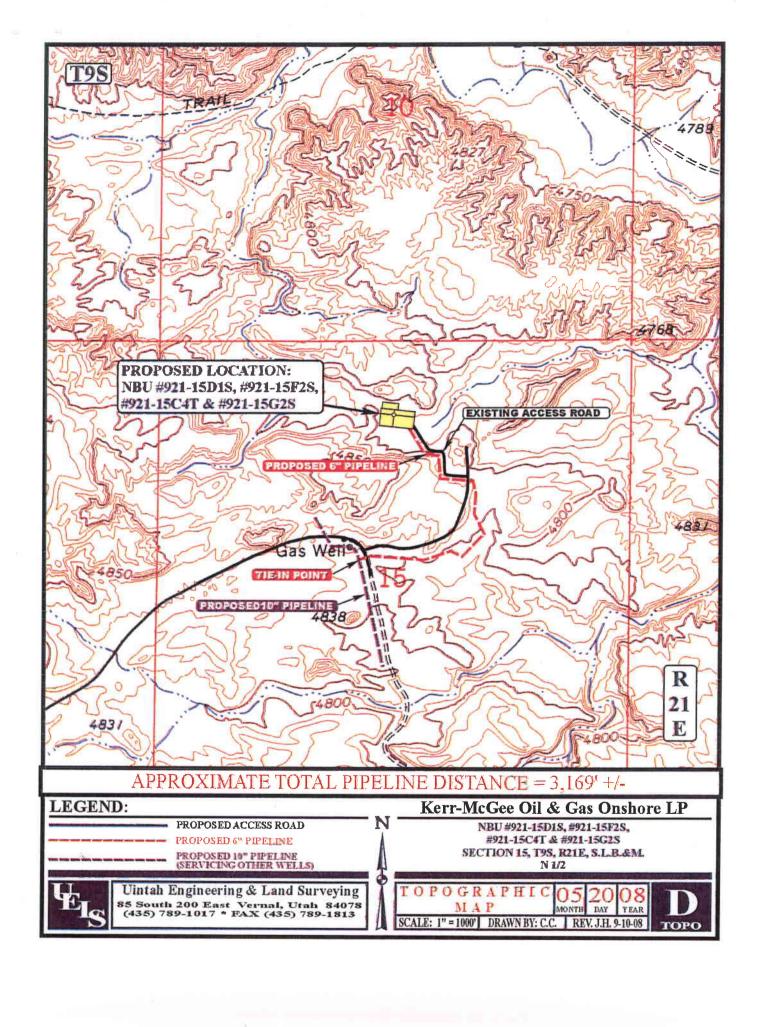
OMB No. 1004-0137

SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.  SUBMIT IN TRIPLICATE - Other Instructions on reverse side.  1. Type of Well	2S			
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.  SUBMIT IN TRIPLICATE - Other Instructions on reverse side.  1. Type of Well	2S			
Abandoned well. Use Form 3160-3 (APD) for such proposals.  SUBMIT IN TRIPLICATE - Other Instructions on reverse side.  1. Type of Well	2S			
SUBMIT IN TRIPLICATE - Other Instructions on reverse side.  1. Type of Well	2S			
1. Type of Well   X   Gas Well   Other   Sequence   S	2S			
Oil Well X Gas Well Other  2. Name of Operator  Kerr-McGee Oil & Gas Onshore, LP  3a. Address P.O. Box 173779, Denver, CO 80217-3779  4. Location of Well (Footage, Sec., T., R., M., or Survey Description) NE NW Sec. 15 T 9S R 21E  834 FNL 2620 FWL  12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  8. Well Name and No.  NBU 921-15C2  9. API Well No.  43-047-40252  10. Field and Pool, or Exploratory Area  Natural Buttes  11. County or Parish, State  Uintah  TYPE OF SUBMISSION  TYPE OF ACTION	2S			
2. Name of Operator  Kerr-McGee Oil & Gas Onshore, LP  3a. Address P.O. Box 173779, Denver, CO 80217-3779  4. Location of Well (Footage, Sec., T., R., M., or Survey Description) NE NW Sec. 15 T 9S R 21E 834 FNL 2620 FWL  12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  TYPE OF ACTION	2S			
Section   Sect				
3a. Address       3b. Phone No. (include area code)       43-047-40252         P.O. Box 173779, Denver, CO 80217-3779       720.929.6226       10. Field and Pool, or Exploratory Area         4. Location of Well (Footage, Sec., T., R., M., or Survey Description)       Natural Buttes         NE NW Sec. 15 T 9S R 21E       11. County or Parish, State         834 FNL 2620 FWL       Uintah         12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA         TYPE OF SUBMISSION       TYPE OF ACTION				
P.O. Box 173779, Denver, CO 80217-3779  720.929.6226  10. Field and Pool, or Exploratory Area  11. County or Parish, State  12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  TYPE OF ACTION				
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  NE NW Sec. 15 T 9S R 21E  834 FNL 2620 FWL  Uintah  12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  TYPE OF ACTION				
NE NW Sec. 15 T 9S R 21E  834 FNL 2620 FWL  Uintah  12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  TYPE OF ACTION				
834 FNL 2620 FWL Uintah  12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION TYPE OF ACTION				
12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  TYPE OF ACTION				
TYPE OF SUBMISSION TYPE OF ACTION				
X Notice of Intent				
Altering Casing Fracture Treat Reclamation Well Integrity				
Subsequent Report Casing Repair New Construction Recomplete Other				
X Change Plans Plug and abandon Temporarily Abandon				
Final Abandonment Notice Convert to Injection Plug back Water Disposal				
Attach the Bond under which the work will performed or provide the Bond No. on file with the BLM/ BlA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notice shall be filed only after all requirements, including reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.)  Kerr-McGee Oil & Gas Onshore, LP, respectfully submits the following revised TOPO D for NBU 921-15C2S, per the conditions of the tribal onsite.				
14. I hereby certify that the foregoing is true and correct.				
Name (Printed/ Typed)  Kevin McIntyre  Regulatory Analyst				
Kevin McIntyre Regulatory Analyst				
Signature Date 10/7/08				

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by
Conditions of approval, if any are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title 18 U.S.C. Section 1001 AND Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious fraudulent statements or representations as to any matter within its jurisdiction.



	STATE OF UTAH		FORM 9		
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING			5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01188		
SUNDRY NOTICES AND REPORTS ON WELLS			6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE		
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.			7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 921-15C2S				
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.			9. API NUMBER: 43047402520000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	treet, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES		
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0834 FNL 2620 FWL			COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NENW Section: 15	IP, RANGE, MERIDIAN: Township: 09.0S Range: 21.0E Meridian:	S	STATE: UTAH		
11. CHE	CK APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPORT,	OR OTHER DATA		
TYPE OF SUBMISSION		TYPE OF ACTION			
	ACIDIZE	ALTER CASING	CASING REPAIR		
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME		
7/24/2009	CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE		
SUBSEQUENT REPORT	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION		
Date of Work Completion:	OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK		
	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION		
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON		
Date of Spau.	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL		
DRILLING REPORT Report Date:	│	SI TA STATUS EXTENSION	✓ APD EXTENSION		
	WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.  Approved by the Utah Division of Oil, Gas and Mining  Date: July 23, 2009					
		В	y: Lacytll		
NAME (PLEASE PRINT)	PHONE NUMBER	TITLE			
Danielle Piernot	720 929-6156	Regulatory Analyst			
SIGNATURE N/A		<b>DATE</b> 7/21/2009			



#### The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

#### Request for Permit Extension Validation Well Number 43047402520000

**API:** 43047402520000 **Well Name:** NBU 921-15C2S

Location: 0834 FNL 2620 FWL QTR NENW SEC 15 TWNP 090S RNG 210E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 7/31/2008

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

 If located on private land, has the ownership changed, if so, has the surface agreement been updated? ( Yes land No • Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? 
Yes 
No Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? 💮 Yes 📵 No · Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? 📗 Yes 📵 No Has the approved source of water for drilling changed?

Yes Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? (ii) Yes (iii) No Approved by the • Is bonding still in place, which covers this proposed well? Yes 📖 No Utah Division of Oil, Gas and Mining

**Signature:** Danielle Piernot **Date:** 7/21/2009

Title: Regulatory Analyst Representing: KERR-MCGEE OIL & GAS ONSHOR July 23, 2009

Bv:

STATE OF UTAH			FORM 9		
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING			5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01188		
SUNDRY NOTICES AND REPORTS ON WELLS			6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE		
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.			7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 921-15C2S				
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.			9. API NUMBER: 43047402520000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHO treet, Suite 600, Denver, CO, 80217 3779	<b>DNE NUMBER:</b> 9 720 929-6007 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES		
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0834 FNL 2620 FWL			COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NENW Section: 15	IP, RANGE, MERIDIAN: Township: 09.0S Range: 21.0E Meridian:	: S	STATE: UTAH		
11. CHE	CK APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPORT,	OR OTHER DATA		
TYPE OF SUBMISSION		TYPE OF ACTION			
	☐ ACIDIZE	ALTER CASING	☐ CASING REPAIR		
✓ NOTICE OF INTENT Approximate date work will start: 8/9/2010	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME		
0/ 9/ 2010	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE		
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION		
	OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK		
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION		
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON		
	│		☐ WATER DISPOSAL		
DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	✓ APD EXTENSION		
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.  Utah Division of Oil, Gas and Mining					
Date: August 09, 2010					
By. The state of t					
NAME (PLEASE PRINT) Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	TITLE Regulatory Analyst			
SIGNATURE N/A		<b>DATE</b> 8/9/2010			



#### The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

#### Request for Permit Extension Validation Well Number 43047402520000

**API:** 43047402520000 Well Name: NBU 921-15C2S

Location: 0834 FNL 2620 FWL QTR NENW SEC 15 TWNP 090S RNG 210E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 7/31/2008

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that requ

	as submitted in . Following is a (						
	on private land,  Yes 📵 N		ership changed	l, if so, has	the surface	agreement bee	en
	wells been drille uirements for th				hich would	affect the spac	ing or
	been any unit o posed well?		•	ace that co	uld affect th	ne permitting o	r operation
	e been any chan proposed locati			uding owne	rship, or rig	htof- way, whi	ch could
• Has the ap	oproved source	of water for d	Irilling changed	? 🔵 Yes	No		
	e been any phys plans from wha					ATT-	luire a
• Is bonding	g still in place, v	vhich covers t	this proposed w	rell? 🌘 Y	es 🔵 No	Approved by Utah Division il, Gas and M	n of
<b>nature:</b> Dan	nielle Piernot	Date:	8/9/2010				
Title: Red	ulatory Analyst R	enresentina:	KERR-MCGEE O	II & GAS ON	SHOR <b>Pate:</b>	August 09,	2010

Sign

# RECEIVED

JUL 1 6 2008

# RECEIVED

Form 3160-3 (August 2007) NOV 2 3 2010

FORM APPROVED OMB NO. 1004-0137 Expires: July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Lease Serial No.

UTU 01188 APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allottee or Tribe Name Ute Tribe 7. If Unit or CA Agreement, Name and No. X DRILL 1a. Type of Work: REENTER 891008900A 8. Lease Name and Well No. X Gas Well Oil Well Type of Well: Other Single Zone NBU 921-15C2S X Multiple Zone Name of Operator 9. API Well No. Kerr-McGee Oil & Gas Onshore, LP 43-047-40252 3a. Address 3b. Phone No. (include area code) 10. Field and Pool, or Exploratory PO Box 173779 Danielle Piernot Natural Buttes Field Denver, CO 80217-3779 720-929-6156 Location of well (Report location clearly and In accordance with any State requirements.\*) NAD 83 11. Sec., T., R., M., or Blk.and Survey Area At surface 834' FNL 2,620' FWL NE/4 NW/4 Lat. 40.041092 Long. -109.537986 15 T 9S R 21E S.L.B.&M. At proposed prod. zone 1,306' FNL 1,427' FWL NE/4 NW/4 Sec. 15 T9S R21E 14. Distance in miles and direction from the nearest town or post office\* 12. County or Parish 13. State Approximately 13 miles southeast of Ouray, Utah Uintah Utah 15. Distance from proposed\* 16. No. of acres in lease 17. Spacing Unit dedicated to this well location to nearest 1306' property or lease line, ft. 880.00 Unit well (Also to nearest drlg. unit line, if any) 18. Distance from proposed location\* 19. Proposed Depth 20. BLM/ BIA Bond No. on file to nearest well, drilling, completed, ±50' 10,285' MD WYB000291 applied for, on this lease, ft. 21. Elevations (Show whether DF. RT, GR, etc.) 22. Aproximate date work will start\* 23. Estimated duration 4,792 ' Ungraded Ground Level KΒ Upon Approval 60-90 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1 shall be attached to this form:

- 1. Well plat certified by a registered surveyor.
- 2. A Drilling Plan.
- A Surface Use Plan ( if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by existing bond on file(see item 20 above).
- 5. Operator certification.
- Such other site specific information and/ or plans as may be required by the a authorized officer.

25. Signature Danull Pumol	Name (Printed/ Typed)  Danielle Pier	not November 22, 2010
Title  Regulatory Analyst I	E-mail: Phone:	danielle.piernot@anadarko.com 720-929-6156
Approved By Signature)	Name Parties H. Sparge	P Date DEC 0 1 2010
Acting Assistant Field Manager Lands & Mineral Resources	VERNAL FIELD OFFIC	E

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL ATTACHED

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

<sup>\* (</sup>Instructions on page 2)



**NOTICE OF APPROVAL** 

DEC 0 9 2010



# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT VERNAL FIELD OFFICE

VERNAL FIELD OFFICE VERNAL, UT 84078

(435) 781-4400



#### CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company: Kerr McGee Oil & Gas Onshore, LP

Location:

NENW, Sec. 15, T9S, R21E (S)

NENW, Sec. 15, T9S, R21E (B)

Well No:

NBU 921-15C2S

Lease No:

**UTU-01188** 

API No:

43-047-40252

Agreement:

**Natural Buttes Unit** 

OFFICE NUMBER:

(435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

# A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.

#### NOTIFICATION REQUIREMENTS

Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist) - The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.

Construction Completion (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)

Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig.

Spud Notice (Notify BLM Petroleum Engineer)

Twenty-Four (24) hours prior to spudding the well.

Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)

Twenty-Four (24) hours prior to running casing and cementing all casing strings to: ut vn opreport@blm.gov.

BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)

Twenty-Four (24) hours prior to initiating pressure tests.

First Production Notice (Notify BLM Petroleum Engineer)

Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

#### SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)

#### **Site-Specific Conditions of Approval:**

- 1. Paint old and new facilities "Shadow Gray."
- 2. Move the existing pipeline off the damage area of the well pad.
- 3. Monitor constructions operations by a permitted paleontologist.
- 4. Monitor constructions operations by a permitted archaeologist.
- 5. In accordance with the guidelines specified in the Utah BLM Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002, a raptor survey shall be conducted prior to expansion of the well pad or pipeline upgrade if construction will take place during raptor nesting season (January 01 through September 30). If active raptor nests are identified during a new survey, KMG shall conduct its operations according to the seasonal restrictions detailed in the Uintah Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines (see Appendix D).
- 6. If project construction operations are not initiated before November 3, 2010, KMG shall conduct additional biological surveys in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures for Uinta Basin hookless cactus (See Appendix D) and conduct its operation according to its specifications.

#### **BIA Standard Conditions of Approval:**

- 1. Soil erosion will be mitigated by reseeding all disturbed areas.
- 2. The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not parallel roads but cross-country between sites, they shall be welded in place at well sites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.
- 3. An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be used in all flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.
- 4. The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.
- 5. A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
- 6. Major low water crossings will be armored with pit run material to protect them from erosion.
- 7. All personnel shall refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.

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- 8. If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.
- 9. Before the site is abandoned the company will be required to restore the right-of-way to near its original state. The disturbed area will be reseeded with desirable perennial vegetation. If necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed mixture.
- 10. Noxious weeds will be controlled on all surface disturbances within the project area. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.
- 11. If project construction operations are scheduled to occur after December 31, 2009, KMG shall conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See Appendix E) and conduct its operations according to applicable seasonal restrictions and spatial offsets.
- 12. USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix E).
- 13. All personnel shall refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
- 14. If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

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#### DOWNHOLE PROGRAM CONDITIONS OF APPROVAL (COAs)

#### SITE SPECIFIC DOWNHOLE COAs:

- 1. A copy of Kerr McGee's Standard Operating Practices (dated 7/17/08 and approved 7/28/08) shall be on location.
- 2. Kerr McGee and their contractors shall strictly adhere to all operating practices in the SOP along with all Oil and Gas rules and requirements listed in the Code of Federal Regulations and all Federal Onshore Oil and Gas Orders except where variances have been granted.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

#### DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- Cement baskets shall not be run on surface casing.

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- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the <u>top of cement</u> and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

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#### **OPERATING REQUIREMENT REMINDERS:**

• All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.

- In accordance with 43 CFR 3162.4-3, this well shall be reported on the "Monthly Report of Operations" (Oil and Gas Operations Report ((OGOR)) starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report shall be filed in duplicate, directly with the Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217-0110, or call 1-800-525-7922 (303) 231-3650 for reporting information.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - o Well location (1/41/4, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - o The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - o Unit agreement and/or participating area name and number, if applicable.
  - o Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will
  be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be
  reported verbally within 24 hours, followed by a written report within 15 days. "Other than
  Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on
  the Monthly Report of Operations and Production.

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- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.
- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover
  equipment shall be removed from a well to be placed in a suspended status without prior
  approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30
  days, prior approval of the BLM Vernal Field Office shall be obtained and notification given
  before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.

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• Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

Print Form

## **BLM - Vernal Field Office - Notification Form**

Oper	ator <u>KERR-McGEE OIL &amp; GA</u>	<u>S</u> Rig Name	e/# <u>BUC</u>	KET RIG
Subr	nitted By ANDY LYTLE	Phone Nun	nber <u>720</u>	.929.6100
	Name/Number NBU 921-150			
	Qtr NENW Section 15		<u>s</u> F	Range <u>21E</u>
Leas	e Serial Number <u>UO-01188</u>			·
API	Number <u>4304740252</u>	,		
	<u>l Notice</u> – Spud is the initial pelow a casing string.	spudding o	f the we	ell, not drilling
	Date/Time <u>06/08/2011</u>	10:00 HRS	АМ 🗌	РМ
Casi time ✓	ng – Please report time casis. Surface Casing Intermediate Casing Production Casing Liner Other	ing run starl	ts, not c	ementing
	Date/Time <u>06/24/2011</u>	00:00 HRS	AM 🗌	РМ
BOP	E Initial BOPE test at surface BOPE test at intermediate 30 day BOPE test Other	<b>.</b>		RECEIVED JUN 08 2011 DIV. OF OIL, GAS & MINING
	Date/Time	enautatum	AM 🗌	PM
Rem	arks estimated date and time. Plea	ASE CONTACT KENN	Y GATHINGS	AT
42E 03	98 0986 OP LOVEL VOING AT 435 781 70	51		

Sundry Number: 15744 API Well Number: 43047402520000

			FORM 9
	STATE OF UTAH		
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINI	NG	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01188
	RY NOTICES AND REPORTS O		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE
	sals to drill new wells, significantly deepen ex igged wells, or to drill horizontal laterals. Use		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-15C2S
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	HORE, L.P.		<b>9. API NUMBER:</b> 43047402520000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	<b>NUMBER:</b> 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES	
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0834 FNL 2620 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NENW Section: 15		STATE: UTAH	
11. CHE	CK APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
□ NOTICE OF INTENT	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	☐ CHANGE WELL NAME
Approximate date work will start:	☐ CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN ☐	FRACTURE TREAT	☐ NEW CONSTRUCTION
Date of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	☐ PLUG BACK
	□ PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
✓ SPUD REPORT  Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON  TEMPORARY ABANDON
6/2/2011		-	
DRILLING REPORT	☐ TUBING REPAIR	VENT OR FLARE	☐ WATER DISPOSAL
Report Date:	☐ WATER SHUTOFF	SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	OTHER	OTHER:
MIRU PETE MARTIN RAN 14" 36.7# SCHE	MPLETED OPERATIONS. Clearly show all pertin BUCKET RIG. DRILLED 20" CO DULE 10 PIPE. CMT W/28 SX RE 06/08/2011 AT 1300 HRS.	NDUCTOR HOLE TO 40'. EADY MIX. SPUD WELL O  OIL  FOR	
NAME (PLEASE PRINT) Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	TITLE Regulatory Analyst	
SIGNATURE N/A		<b>DATE</b> 6/9/2011	

Sundry Number: 16021 API Well Number: 43047402520000

			EODM 0
	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01188
	RY NOTICES AND REPORTS		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE
	sals to drill new wells, significantly deepen e igged wells, or to drill horizontal laterals. Us		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-15C2S
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	HORE, L.P.		<b>9. API NUMBER:</b> 43047402520000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHON treet, Suite 600, Denver, CO, 80217 3779	<b>E NUMBER:</b> 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0834 FNL 2620 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NENW Section: 15	(P, RANGE, MERIDIAN: Township: 09.0S Range: 21.0E Meridian: S	;	STATE: UTAH
11. CHE	CK APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
☐ NOTICE OF INTENT	CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
Approximate date work will start:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT	DEEPEN	FRACTURE TREAT	□ NEW CONSTRUCTION
Date of Work Completion:	OPERATOR CHANGE	□ PLUG AND ABANDON	□ PLUG BACK
_	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
SPUD REPORT Date of Spud:			
	☐ REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
✓ DRILLING REPORT	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
Report Date:	☐ WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
6/19/2011	☐ WILDCAT WELL DETERMINATION	OTHER	OTHER:
MIRU AIR RIG ON JU SURFACE CASING	MPLETED OPERATIONS. Clearly show all pertiume 16, 2011. DRILLED SURFA AND CEMENTED. WELL IS WAIS INT JOB WILL BE INCLUDED W REPORT.	ACE HOLE TO 2885'. RAN ITING ON ROTARY RIG. ITH WELL COMPLETION A U	·
NAME (PLEASE PRINT) Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	TITLE Regulatory Analyst	
SIGNATURE N/A		<b>DATE</b> 6/20/2011	

# STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

#### **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

1368 SOUTH 1200 EAST

city VERNAL

state UT zip 84078

Phone Number: (435) 781-7024

Wall 1

API Number	Well	QQ	QQ Sec		Rng County				
4304740236	NBU 921-15G2S		NENW	15	98	21E	UINTAH		
Action Code	Current Entity Number	ity New Entity Spud Date Number			te	Entity Assignment Effective Date			
B	99999	. (	6/8/201	6/22/11					

MINIT

SPUD WELL ON 06/08/2011 AT 0830 HRS. BUL: SWHE

Well 2

API Number	Well	QQ	Sec	Twp	Rng County		
4304740337	NBU 921-15C4S		NENW	15	98	21E	UINTAH
Action Code	Current Entity Number	Spud Date			Entity Assignment Effective Date		
$\mathcal{B}$	99999	2900	6/8/2011			6	122/11
Comments: MIRI SPU	J PETE MARTIN BUCK D WELL ON 06/08/2011	ET RIG. WSM I AT 1030 HRS.	VD BHL=	NEI	NW		

Well 3

4304740252								
4304740252	NBU 921-15C2S		NENW	15	98	21E	UINTAH	
Action Code	Current Entity Number	Spud Date			Entity Assignment Effective Date			
B	99999	2900		6/8/201°	1	6/0	22/11	

#### **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- Re-assign well from one existing entity to another existing entity
- Re-assign well from one existing entity to a new entity
- E Other (Explain in 'comments' section)

RECEIVED

Signature
REGULATORY ANALYST

SHEILA WOPSOCK

Title

6/9/2011 Date

(5/2000)

JUN 09 2011

Sundry Number: 17822 API Well Number: 43047402520000

	STATE OF UTAH		FORM 9							
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINI	NG	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01188							
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4. LOCATION OF WELL FOOTAGES AT SURFACE: 0834 FNL 2620 FWL			COUNTY: UINTAH							
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NENW Section: 15	STATE: UTAH									
11. CHE	CK APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPORT,	OR OTHER DATA							
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✓ DRILLING REPORT Report Date: 8/25/2011	□ WATER SHUTOFF □ □ WILDCAT WELL DETERMINATION □	SI TA STATUS EXTENSION OTHER	OTHER:							
8/25/2011										
NAME (PLEASE PRINT) Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	TITLE Regulatory Analyst								
SIGNATURE N/A		<b>DATE</b> 8/25/2011								

Sundry Number: 20017 API Well Number: 43047402520000

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	G	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-01188
SUNDE	RY NOTICES AND REPORTS ON	I WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE
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<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	UMBER: 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES	
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QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NENW Section: 15	IP, RANGE, MERIDIAN: Township: 09.0S Range: 21.0E Meridian: S		STATE: UTAH
11. CHE	CK APPROPRIATE BOXES TO INDICATE N	ATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
THE SUBJECT WELL V	□ CHANGE TO PREVIOUS PLANS       □ CHANGE WELL STATUS       □ DEEPEN       □ OPERATOR CHANGE       ✓ PRODUCTION START OR RESUME       □ REPERFORATE CURRENT FORMATION       □ TUBING REPAIR       □ WATER SHUTOFF	N 11/02/2011 AT 11:15 SUBMITTED WITH THE A L Oil	
NAME (PLEASE PRINT) Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	TITLE Regulatory Analyst	
SIGNATURE N/A	<u> </u>	DATE 11/3/2011	

Form 3160-4 (August 2007)

# UNITED STATES DEPARTMENT OF THE INTERIOR

FORM APPROVED OMB No. 1004-0137

			BUREA	U OF L	ANL	) MANA	GEME	ENT							EX	pires: Jui	y 31, 2010	
	WELL	COMPI	LETION (	OR RE	CO	MPLET	'ION F	REPO	RT	AND L	.OG				ease Serial ITU01188			
la. Type o	f Well	Oil Wel	l 🛮 🖾 Gas			-	Other							6. If	Indian, A	llottee o	r Tribe Nam	e
b. Type o	f Completion	ı ⊠ 1 Oth	New Well er	☐ Wor	rk Ov	er 🔲	Deepen		Plug	Back	<b>D</b> D:	iff. Re	esvr.	7. U	nit or CA	Agreem 7A	ent Name ar	nd No.
2. Name of KERR	f Operator MCGEE OII	L & GAS	ONSHORE	,lMail: J	IAIME					NOWSKI DARKO.C					ase Name IBU 921-		ell No.	
3. Address	PO BOX DENVER		217		*****			a. Phon h: 720		o. (include 9-6304	area o	ode)		9. A	PI Well N	0.	43-047-4	0252
4. Location	n of Well (Re	port locat	ion clearly ar	nd in acc	ordan	nce with F	ederal r	equirem	nents)	)*				10. F	ield and F	ool, or	Exploratory ES	
At surfa			L 2620FWL					35 W Lo	on					11. S	Sec., T., R. r Area Se	., M., or	Block and S 9S R21E M	Survey fer SLB
	At top prod interval reported below NENW 1277FNL 1390FWL  At total depth NENW 1300FNL 1435FWL  At total depth NENW 1300FNL 1435FWL										e							
At total depth NENW 1300FNL 1435FWL PHL YVC DU HSM UINTAH UT  14. Date Spudded 06/08/2011  15. Date T.D. Reached 08/22/2011  16. Date Completed 17. Elevations (DF, KB, RT, GL)* 4972 GL  11/02/2011  11/02/2011																		
18. Total D	Depth:	MD TVD	1053 1032		19.	Plug Bac	c T.D.:	MI TV			481 274	П	20. Dej	oth Bri	dge Plug S		MD TVD	<u></u>
21. Type E CBL/VI	lectric & Oth DL/GR/CCL	er Mecha -CMI/GR	nical Logs R /CCL-RSL/S	un (Subi SM/GR/	mit co CCL-	py of eac BHV-SD	h) /DSN		***		v	Vas D	ell core ST run? ional Su	i? rvey?	X No X No □ No	Yes	s (Submit an s (Submit an s (Submit an	alysis) alysis) alysis)
23. Casing a	nd Liner Reco	ord (Repe	ort all strings	set in w	ell)													
Hole Size	Size/G	rade	Wt. (#/ft.)	To <sub>l</sub> (MI	`	Botton (MD)	n Stag	ge Ceme Depth		No. of Type o	f Sks. f Cem		Slurry (BB		Cement	Top*	Amount	Pulled
20.000	<del>                                     </del>	000 STL	36.7	<u> </u>	0	_	40					28						····
12.250 7.875	<del></del>	525 J-55 500 I-80			0	28 97	76 71					575 1832				950		
7.875	<del>+</del>	00 P-110		ç	771	105						1002				900		
7.070	4.00	01-110	11.0		,,,,	100												
24. Tubing	Record			··········										,				
	Depth Set (M		acker Depth	(MD)	Siz	ze D	pth Set	(MD)	P	acker Dep	oth (M	D)	Size	De	pth Set (M	(D)	Packer Dep	th (MD)
2.375 25. Producis		9686					26, Perfe	oration l	Pegg	rd	-	L						
	ormation	<del>- 1</del>	Тор	- T	Bot	tom	20. 1 011			Interval		η-	Size	T	lo. Holes	T	Perf. Stati	10
A)	WASA	ATCH		7200	DOL	7800		remon	ateu .	7200 T	0.780	0	0.3			5 OPE		19
B)	MESAVE			8302		10144				8302 TO			0.3			5 OPE		
C)																		
D)																		
27. Acid, Fr	acture, Treat	ment, Cer	ment Squeeze	e, Etc.														
	Depth Interva			. 040 00		101/1100	0.400.0	04   D0		nount and			aterial		RI	ECE	EIVEC	)
	720	0 10 10	144 PUMP 7	,016 BB	LS SL	JCK H2O	& 132,6	91 LBS	30/50	OTTAWA	A SAN	<u> </u>						- 1
										<del></del>			<del></del>		<del>- D</del>	EC 0	<del>5 2011</del>	
													···		DUL OF	-OU- O		
28. Producti	ion - Interval	A													DIV. OF	UIL, U	AS & IMIN	ING
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL		Gas MCF	Water BBL		Oil Gra Corr. A			łas łravity		Producti	on Method			
11/02/2011	11/07/2011	24		0.0		1387.0	640	0.0							FLO	WS FRO	OM WELL	
Choke Size	Tbg. Press. Flwg. 1048	Csg. Press.	24 Hr. Rate	Oil BBL		Jas MCF	Water BBL		Gas:Oi Ratio	il	V	Vell Sta	tus					
20/64	SI	1387.0		0		1387	64	ı				PC	3W					
	tion - Interva	1 B																
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL		Gas MCF	Water BBL		Oil Gra Corr. A			las Iravity		Producti	on Method			
Choke	Tbg. Press.	Cag.	24 Hr. Rate	Oil BBL		Jas MCF	Water BBI.		Gas:Oi	1	v	Vell Sta	tus				····	

	luction - Inter		- I	T=::		<del></del>		<del></del>				
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Ga Gr	as ravity	Production Metho	d	
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	W	ell Status	i		
28c Prod	uction - Inter	val D		1					<del></del>			
Date First	Test	Hours	Test	Oil	Gas	Water	Oil Gravity	Ga		Production Metho		
Produced	Date	Tested	Production	BBL	MCF	BBL	Corr. API		ravity	Production Metho	G.	
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	W	ell Status			
29. Dispo		(Sold, used	for fuel, vent	ed, etc.)	<del> </del>		<u>.</u>				<del></del>	
30. Summ	nary of Porou	s Zones (In	nclude Aquife	rs):					31. For	mation (Log) N	⁄Iarkers	
tests, i	all important including dep ecoveries.	zones of poth interval	orosity and cotested, cushic	ontents the on used, tin	reof: Corec	l intervals an n, flowing ar	d all drill-stem nd shut-in press	sures				
	Formation		Тор	Bottom	1	Descript	ions, Contents,	etc.		Name		Top Meas. Depth
					<del>-  </del> -				GR	EEN RIVER		1430
									BIR MA WA	D'S NEST HOGANY SATCH SAVERDE		1908 2595 5304 8286
		l		<u>}</u>					1412	OAVERDE		0200
						}						
						/						
		ł										
32. Additi	onal remarks	(include p	lugging proce	dure):		<del></del>		<del> </del>		***	· <u>-</u>	L
Attach	ned is the ch	ronologic	lugging proce al well histor	y, pérfora	tion repor	t & final sur	vey.				RECEI	VED ;
											DEC 0 5	2011
										DIV	OF OIL, GAS	& MINING
33. Circle	enclosed atta	chments:								D:11.	J. JIL, UNO	~ imiting
		_	s (1 full set reg g and cement	. ,	I	<ol> <li>Geologi</li> <li>Core Ar</li> </ol>	-		3. DST Rep 7 Other:	oort	4. Direction	nal Survey
34 I harah	w certify that	the foreco	ing and attact	and inform	ation is see	mnlete and a	arrect or determ	ained from	all available	records (see st	tached instructio	ne):
J4. 1 HC(C)	y ceruiy mat	. me toteko	Electr	onic Subm	ission #12	4624 Verifie	ed by the BLM S ONSHORE,	Well Info	rmation Sys	•	acheu histructio	нэ).
Name	(please print)	JAIME L.	. SCHARNO	WSKE	· · · · · · · · · · · · · · · · · · ·		Title	REGULA	TORY ANA	ALYST		
Signati	ure	(Electron	ic Submissio	on)			Date	= 12/02/20°	11			
~-1911411		,				<del></del>	Dan	100000				
TE'41 - 10 II	C.C. Continu	1001 and 7	Title 43 U.S.C	Section 1	212 make	it a crime fo	or any nerson k	nowingly ar	nd willfully f	to make to any	department or as	TANON!

### **Operation Summary Report**

Well: NBU 921-15C2S BLUE	Spud Conductor: 6/8/2011	Spud Date: 6/17/2011
Project: UTAH-UINTAH	Site: NBU 921-15C PAD	Rig Name No: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING	Start Date: 5/25/2011	End Date: 8/24/2011

Active Datum: RKB @4,805.00usft (above Mean Sea

UWI: NE/NW/0/9/S/21/E/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0

Level)		·							
Date	Time Start-E		Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/16/2011	19:00 - 2		2,50	MIRU	01	С	Р	نظفت ن <u>ستین هم در هی</u>	SKID RIG & RIG UP ( LEVEL PAD ARROUND 2nd WELL W/ DIRT
1	21:30 - 2	3:30	2.00	PRPSPD	14	Α	Ρ		WELD ON CONDUCTOR & RIG UP FLOWLINE
	23:30 - (	0:00	0.50	PRPSPD	07	Α	P		SERVICE RIG & EQUIPMENT
6/17/2011	0:00 - 2	2:00	2.00	PRPSPD	06	Α	Р		PU 12.25" BIT & 8" MM
	2:00 - 3 3:30 - 9		1.50	DRLSUR	02	В	P		SPUD 12.25" SURFACE HOLE F/ 40' -T/ 228' /// ROP= 188' @ 125 FPH /// WOB= 16-18K /// RPM=50/100 /// SPP=1000/750 /// GPM= 595 TOOH & PU DIR TOOLS, SCRIBE, & TIH
			2.00	DRLSUR	06	A	P		, ,
	5:30 - 1	8:00	12.50	DRLSUR	02	D	P		DIR DRLG 12.25" SURFACE HOLE F/ 228'- T/ 1689' /// ROP= 1461' @ 117 FPH /// WOB= 18-22K /// RPM= 50/100 /// SPP= 1250/1000 /// GPM= 595 /// NO LOSSES
	18:00 - (	0;00	6,00	DRLSUR	02	D	P		DIR DRLG 12.25" SURFACE HOLE F/ 1689' -T/ 2035' /// ROP= 346' ' @ 58 FPH /// WOB= 18-22K /// RPM= 50/100 /// SPP= 1350/1000 /// GPM= 595 /// NO LOSSES
6/18/2011	-			RDMO					CONDUCTOR CASING:
									Cond. Depth set: 40
									Cement sx used: 28
									SPUD DATE/TIME: 6/17/2011 2:00
									SURFACE HOLE:
									Surface From depth: 40
									Surface To depth: 2885
									Total SURFACE hours: 33,00
									Surface Casing size: 9.625" # of casing joints ran: 67 JT'S
									# of casing joints ran: 67 JT'S  Casing set MD: 2861'
									# sx of cement: 250/225/100
									Cement blend (ppg:) 11/15.8/15/8
									Cement yield (ft3/sk): 3.82/1.15/1.15
:									# of bbls to surface: 45 BBL'S
									Describe cement issues: NONE
						_	_		Describe hote issues: NONE
	0:00 - €	3:00	6.00	DRLSUR	02	D	P		DIR DRLG 12.25" SURFACE HOLE F/ 2035'- T/ 2400' /// ROP= 365' @ 61 FPH /// WOB= 18-22K /// RPM= 50/100 /// SPP= 1350/1000 /// GPM= 595 /// NO LOSSES
	6:00 - 1	3:00	7.00	DRLSUR	02	D	P		DIR DRLG 12.25" SURFACE HOLE F/ 2400'-T/ 2885'
	·				_				/// ROP= 485' @ 69 FPH /// WOB= 18-22K /// RPM= 50/100 /// SPP= 1350/1000 /// GPM= 595 /// NO LOSSES
	13:00 - 1	3:30	0.50	DRLSUR	05	Α	P		CIRC & COND HOLE FOR 9-5/8" SURFACE CSG
	13:30 - 1	6:00	2.50	DRLSUR	06	Α	P		LDDS & DIR TOOLS
	16:00 - 1	8:30	2.50	CSG	12	С	P		PJSM /// RUN 67 JT'S, 9-5/8", 40#, J-55, LT&C CSG /// SHOE SET @ 2861' & BAFFLE @ 2817'
	18:30 - 1	9:00	0.50	CSG	05	Α	P		CIRC 9-5/5" CSG @ 2861'

### **RECEIVED**

3:30:38PM 11/18/2011

### **Operation Summary Report**

Spud Conductor: 6/8/2011 Spud Date: 6/17/2011 Well: NBU 921-15C2S BLUE Site: NBU 921-15C PAD Rig Name No: ENSIGN 145/145, CAPSTAR 310/310 Project: UTAH-UINTAH Event: DRILLING Start Date: 5/25/2011

UWI: NE/NW/0/9/S/21/E/15/0/0/26/PM/N/834.00/W/0/2.620.00/0/0

Active Datum: RKB @4,805.00usft (above Mean Sea Level)						UWI: NE/NW/0/9/S/21/E/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0						
Date		Time tart-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation			
		- 21:30	2.50	CSG	12	В	P	Anna Maria	PJSM W/ SUPERIOR CMT CREW /// TEST LINES TO 2500 PSI /// PUMP 25 BBL SPACER /// LEAD = 250 SX CLASS G CMT @ 3.82 YIELD & 11.0 WT // TAIL = 225 SX @ 1.15 YIELD & 15.8 WT /// DROP PLUG & DISPLACE W/ 200 BBLS WATER /// PLUG DN @ 21:32 6/18/2011 /// BUMP PLUG W/ 905 PSI /// FINAL LIFT = 640 PSI /// CHECK FLOATS- HELD W/ 1.15 BBL'S BACK /// FULL RETURNS THRU OUT JOB /// 45 BBLS TO SURFACE			
	21:30	- 22:00	0.50	CSG	14	Α	P		CUT OFF CONDUCTOR & HANG 9-5/8" SURFACE CSG			
	22:00	- 23:00	1.00	CSG	12	E	P		RUN 200' OF 1" PIPE DN BACKSIDE & TOP OUT W/ 100 SX CMT @ 15.8 WT & 1.15 YIELD			
	23:00	- 0:00	1.00	RDMO	01	E	Р		CLEAN PITS & RIG DN /// RELEASE RIG @ 00:00 06/19/2011 TO THE NBU 921-15C4S			
8/15/2011	2:00	- 5:30	3.50	MIRU	01	С	P		PULL OUT CAT WALK. UNDO FLARE LINES AND FLOWLINES. PLACE MATTING BOARDS TO WALK RIG FOWARD. WALK RIG FORWARD 20' OVER WELL. SET DOWN STACK AND LEVEL AND CENTER RIG.			
	5:30	- 7:00	1.50	MIRU	14	Α	P		NIPPLE UP BOP'S. NIPPLE UP FLOWLINES. RIG UP FLARE LINES.			
	7:00	- 12:00	5,00	MIRU	15	A	P		HOLD SAFETY MEETING. TEST TOP DRIVE VALVE, FLOOR VALVE, DART VALVE, PIPE AND BLIND RAMS, INSIDE AND OUTSIDE KILL LINE VALVES INSIDE CHOKE LINE VALVE, HCR VALVE, CHOKE LINE, CHOKE MANIFOLD VALVES AND CHOKES TO 5000 PSI FOR 10 MIN AND 250 PSI FOR 5 MIN. TEST ANNULLAR TO 2500 PSI FOR 10 MIN AND 250 PSI FOR 5 MIN. TEST CSG TO 1500 PSI FOR 30 MIN. (CHECK ACCUMALATOR BOTTLES.) SET WEARBUSHING WITH NORMAL WEAR (8 1/16"). PERFORM RIG INSPECTION.			
	12:00	- 15:00	3.00	MIRU	06	Α	P		P/U SDI 1.5 BH .23 RPG ERT MOTOR (SN 6227). M/U SMITH BIT MDI616 W/ 6-14'S (SN JE8562). SCRIBE MOTOR. M/U DIRECTIONAL BHA. INSTALL EM TOOL. TRIP IN HOLE TO 2650'.			
	15:00	- 19:00	4.00	MIRU	09	Α	P		SLIP AND CUT DRILL LINE. DRILL LINE GO HUNG UP AND SLIGHTLY BENT DRILL LINE. ENSIGN INPECTED DRILL LINE AND DECIDED DRILL LINE WOULD BE OK.			
	19:00	- 20:00	1.00	MIRU	07	Α	P		SERVICE RIG. SERVICE IRON DERRICK MAN. INSTALL NEW SAVER SUB. CHANGE GRABBERBOX DIES.			
	20:00	- 20:30	0.50	MIRU	06	Α	P		TRIP IN. INSTALL NEW ROT HEAD RUBBER. CHECK PUMPS AND LINES FOR LEAKS.			
	20:30	- 22:00	1.50	DRLPRO	02	F	Р		SPUD 8/15/2011 20:30. DRILL CEMENT AND FE 2800'-2889'. BAFFLE PLATE @ 2821', FLOAT SHOE @ 2865'. DRILL OUT W/ 100 SPM, 450 GPM, 30 RPM, 12K WOB. (PLUG STARTED TURNING UNDER BIT. SHUT DOWN PUMPS AND PRESSED DOWN ONTO PLUG WITH 25K TO PINCH RUBBER. THEN CONTINUED DRILLING THROUGH PLUG.)			

### **RECEIVED**

### **Operation Summary Report**

Well: NBU 921-15C2S BLUE	Spud Conductor: 6/8/2011	Spud Date: 6/17/2011
Project: UTAH-UINTAH	Site: NBU 921-15C PAD	Rig Name No: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING	Start Date: 5/25/2011	End Date: 8/24/2011
Active Datum: PKR @4 805 00usft (above		/E/15/0/0/26/PM/N/834.00/W/0/2.620.00/0/0

Event: DRILLING	,			Start Date	5: 5/25/20	11			End Date: 8/24/2011
Active Datum: RI	KB @4,8	305.00usft (a	above Mean S	Sea	UWI: NE	E/NW/0/9/	S/21/E/15	/0/0/26/PM/N/83	34.00/W/0/2,620.00/0/0
Level)							installa		
Daté	s	Time tart-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	22:00	- 0:00	2.00	DRLPRO	02	D	P		DRILL SLIDE 2889'- 3062' (173',87'/HR) WOB 15-20K AVE WOB 18K, SPM 120, GPM 540, PSI ON/OFF 1500/1050, DIFF 450, MOT RPM 124, ROT 45, TOR ON/OFF/UP 6/3/3, PU/SO/ROT 114/109/112, DRAG 2K. CIRC. RESERVE PIT. W. 8.4# WATER. USE POLYMER DOWN DP ON CONNECTIONS. SLIDE 78' @ 100' HR 45% SLIDE 55% ROT. SLIDE UP TO MAINTAIN TANGENT.
8/16/2011	0:00	- 6:00	6.00	DRLPRO	02	D	P		DRILL SLIDE 3062'-3590' (528',88'/HR) WOB 15-20K AVE WOB 18K, SPM 120, GPM 540, PSI ON/OFF 1800/1300, DIFF 500, MOT RPM 124, ROT 45, TOR ON/OFF/UP 6/3/3, PU/SO/ROT 117/114/116, DRAG 1K. CIRC. RESERVE PIT. W. 8.4# WATER. USE POLYMER DOWN DP ON CONNECTIONS. SLIDE 211' @ 90' HR 40% SLIDE 55% ROT. SLIDE UP TO MAINTAIN TANGENT. 5-10' FLARE WHILE DRILLING AND TRACE OIL FROM 3500'.
	6:00	- 11:30	5.50	DRLPRO	02	D	P		DRILL SLIDE 3590'-4207' (617',112'/HR) WOB 15-20K AVE WOB 18K, SPM 120, GPM 540, PSI ON/OFF 1800/1300, DIFF 500, MOT RPM 124, ROT 45, TOR ON/OFF/UP 8/4/5, PU/SO/ROT 135/126/123, DRAG 9K. CIRC. RESERVE PIT. W. 8.4# WATER. USE POLYMER DOWN DP ON CONNECTIONS. SLIDE 259' @ 85' HR 42% SLIDE 54% ROT. SLIDE UP TO MAINTAIN TANGENT. 5-10' FLARE ON CONNECTIONS W/ TRACE OIL FROM 3500', NO LOSSES.
	11:30	- 12:00	0.50	DRLPRO	07	Α	Р		SERVICE RIG. SERVICE TOP DRIVE.
		- 18:00	6.00	DRLPRO	·02	D	P		DRILL SLIDE 4207'-4750' (543',91'/HR) WOB 15-20K AVE WOB 18K, SPM 120, GPM 540, PSI ON/OFF 1850/1425, DIFF 425, MOT RPM 124, ROT 45, TOR ON/OFF/UP 8/4/5, PU/SO/ROT 145/123/132, DRAG 13K. CIRC. RESERVE PIT. W. 8.4# WATER. USE POLYMER DOWN DP ON CONNECTIONS. SLIDE 233' @ 85' HR 43% SLIDE 50% ROT. SLIDE UP TO MAINTAIN TANGENT. NO FLARE. NO LOSSES. TRACE OIL FROM 3500'.
	18:00	- 23:30	5.50	DRLPRO	02	A	P		DRILL SLIDE 4750'-5216' (466',85'/HR) WOB 15-21K AVE WOB 18K, SPM 120, GPM 540, PSI ON/OFF 2050/11650, DIFF 425, MOT RPM 124, ROT 45, TOR ON/OFF/UP 9/5/5, PU/SO/ROT 143/123/135, DRAG 8K. CIRC. RESERVE PIT. W. 8.4# WATER. USE POLYMER DOWN DP ON CONNECTIONS. SLIDE 182' @ 85' HR 39% SLIDE 61% ROT. SLIDE UP TO MAINTAIN TANGENT. NO FLARE. NO LOSSES. TRACE OIL FROM 3500'. STARTED SEEING PRESSURE INCREASE OF 200-300 ON OFF BOTTOM PSI AROUND 4918'-5216'. THEN DP PRESSURED INCREASED WHILE SLIDING AND BLEW POP OFFS ON PUMP. WE HAD APPROX A 800 PSI INCREASE ON OFF BOTTOM PSI. TESTED MOTOR AND BOTTOM OF HOLE AND MOTOR WOULD STILL TURN DRILL STRING BACKWARDS ON BOTTOM. HOLE IS FREE WITH GOOD CIRCULATION.

### RECEIVED

### **Operation Summary Report**

Well: NBU 921-15C2S BLUE	Spud Conductor: 6/8/2011	Spud Date: 6/17/2011
Project: UTAH-UINTAH	Site: NBU 921-15C PAD	Rig Name No: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING	Start Date: 5/25/2011	End Date: 8/24/2011

Active Datum: RKB @4,805.00usft (above Mean Sea

UWI: NE/NW/0/9/S/21/E/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0

St	Time bart-End	Duration	Phase	Code	6.4	P/U	\$1876 <u>50</u> 7_6435015	서면 보통 항상 가는 가장 전에 다른 경우 가장 보면 하는 것 같은 사람들이 되었다. 그렇게 되었다. 그렇게 되었다.
	an-end	1 4 4			Sub	P/U	MD From	Operation
	- 0:00	(hr) 0.50	DRLPRO	06	G G	Z	(usft)	TROUBLE SHOOT PROBLEM. TESTED MOTOR AND BOTTOM OF HOLE AND MOTOR WOULD STILL TURN DRILL STRING BACKWARDS ON BOTTOM. HOLE IS FREE WITH GOOD CIRCULATION. CHECK
0:00	- 1:30	1.50	DRLPRO	06	G	Z		SUCTION PIT AND SUCTION PIT IS CLEAN. PRESSURE WILL BLEED OFF. POSSIBILITY OF PLUGGED JETS OR POSSIBLE MOTOR FAILURE. WET TRIP OUT OF HOLE TO 3500'. WELL FLOWING 1/2 BBL HR. NO TIGHT HOLE ON TRIP.
1:30	- 2:30	1.00	DRLPRO	05	В	Z		CIRC OUT GAS. 10-15' FLARE THROUGH OUT CIRC PUMP 130 BBLS OF 13# MUD TO HOLD GAS AND DRY PIPE.
2:30	- 7:00	4.50	DRLPRO	06	G	Z		TRIP OUT OF HOLE. PULLED EM TOOL AND CHECK FINS ON TOOL. CHECK FLOAT. FLOAT HAD HARD OBJECT HOLDING FLOAT OPEN. WHILE TRYNG TO GET OBJECT OUT OF FLOAT. OBJECT FELL BELOW FLOAT. PULL UP CHECK BIT. JETS PLUGGED WITH RUBBER. BREAK OFF BIT. MOTOR TURNS AND DRAINS GOOD. CLEANED OUT BIT JETS. (RUBBER OUT OF BIT APPEARS TO BE STATOR RUBBER). (BIT UNDAMAGED)
7:00	- 9:30	2.50	DRLPRO	06	G	Z		PICK UP SDI .23 RPG ERT MOTOR W 1.5 BH. MAKE UP SAME BIT. SCRIBE MOTOR AND DIRECTIONAL TOOLS, TRIP IN HOLE TO 3000'
9:30	- 10:00	0,50	DRLPRO	05	Α	Z		CIRCUALTAE 130 BBLS OF 13# MUD AND DRY JOB FROM WELL BORE.
10:00	- 11:30	1.50	DRLPRO	06	Α	Z		TRIP IN HOLE TO 5216' BREAK CIRCULATION 5' FLARE ON BOTTOMS
11:30	- 0:00	12.50	DRLPRO	02	D	P		DRILL F/ 5216' TO 6513' = 1297' 103.76 FPH STKS #1 & #2 PUMPS 60/60, 540 GPM PSI OFF / ON BOTTOM 1470/1874 MOTOR RPM / ROTARY RPM, 124/45 TQ ON / OFF BOTTOM 10K/8K FT/LBS PU / SO / ROT WT 185 / 152/ 164 WT ON BIT 15K TO 22K NO LOSS, DRILLING WITH WATER
	- 17:30	17.50	DRLPRO	02	D	P		DRILL F/ 6513' TO 8193' = 1680' 96 FPH STKS #1 & #2 PUMPS 60/60, 540 GPM PSI OFF / ON BOTTOM 1700/2125 MOTOR RPM / ROTARY RPM, 124/45 TQ ON / OFF BOTTOM 11K/8K FT/LBS PU / SO / ROT WT 239 / 176/ 193 WT ON BIT 15K TO 22K NO LOSS, STARTED MUD UP
		0.50	DRLPRO	07	Α	P		DAILY RIG SERVICE
18:00	- 0:00	6.00	DRLPRO	02	D	Р		DRILL F/ 8193' TO 8566' = 373' 62 FPH STKS #1 & #2 PUMPS 00/105, 473 GPM PSI OFF / ON BOTTOM 1447/1784 MOTOR RPM / ROTARY RPM, 108/50 TQ ON / OFF BOTTOM 11K/8K FT/LBS PU / SO / ROT WT 239 / 176/ 202 WT ON BIT 15K TO 22K NO LOSS, STARTED MUD UP @ 8200'
		0 - 18:00 0 - 0:00			0 - 0:00 6.00 DRLPRO 02	0 - 0:00 6.00 DRLPRO 02 D	0 - 0:00 6.00 DRLPRO 02 D P	0 - 0:00 6.00 DRLPRO 02 D P

								REGION i <mark>ary Report</mark>
Well: NBU 921-	15C2S BI	.UE		Spud Co	nductor: 6	5/8/2011	W.	Spud Date: 6/17/2011
Project: UTAH-l				Site: NBU	921-150	PAD		Rig Name No: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLIN	G			Start Date	e: 5/25/20	)11	Τ	End Date: 8/24/2011
Active Datum: RKB @4,805.00usft (above Mean Se Level)						/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0		
Date	100000	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
8/19/2011		- 20:30	20.50	DRLPRO	02	D	P	DRILL F/ 8566' TO 9551' = 985' 48 FPH  STKS #1 & #2 PUMPS 00/105, 473 GPM  PSI OFF / ON BOTTOM 1800/2267  MOTOR RPM / ROTARY RPM, 108/50  TQ ON / OFF BOTTOM 11K/8K FT/LBS  PU / SO / ROT WT 265 / 176/ 210  WT ON BIT 15K TO 22K  NO LOSS, VIS 35, WT 9.2 LCM 4%
		- 21:00	0.50	DRLPRO	07	A	P	DAILY RIG SERVICE
	21:00	- 0:00	3.00	DRLPRO	02	D	Р	DRILL F/ 9551' TO 9685' = 134' 44.6 FPH STKS #1 & #2 PUMPS 00/105, 473 GPM PSI OFF / ON BOTTOM 1800/2267 MOTOR RPM / ROTARY RPM, 108/50 TQ ON / OFF BOTTOM 11K/8K FT/LBS PU / SO / ROT WT 265 / 176/ 210 WT ON BIT 15K TO 22K NO LOSS, VIS 35, WT 9.2 LCM 4%
8/20/2011	0:00	- 7:30	7.50	DRLPRO	02	D	Р	DRILL F/ 9685' TO 9879' = 194' 25.8 FPH STKS #1 & #2 PUMPS 00/105, 473 GPM PSI OFF / ON BOTTOM 2141/2531 MOTOR RPM / ROTARY RPM, 108/50 TQ ON / OFF BOTTOM 13K/8K FT/LBS PU / SO / ROT WT 258 / 180/ 219 WT ON BIT 15K TO 22K
	7:30	- 16:30	9.00	DRLPRO	06	A	P	NO LOSS, VIS 37, WT 9.6 LCM 10%  FLOW CHECK, NO FLOW, TRIP OUT FOR BHA, PUMP  AND ROTATE OUT TO 7998', WORK THROUGH  TIGHT SPOT AT 5298' TO 5195' TRIP OUT TO TOP  OF BHA, FLOW CHECK, NO FLOW PULL ROTATE  HEAD, TRIP OUT BHA LAY DOWN BIT & MOTOR, BIT  GRADED 1-6 WITH 2 PLUGGED JETS, FOUND  RUBBER LOOKED LIKE OLD FLOAT RUBBER FOM  RESERVE PIT, MOTOR DRIANED GOOD, MOTOR  HAS 59.5 HRS, HOLE TOOK PROPER FLUID  RIG STILL CENTER AND LEVEL
	16:30	- 20:00	3.50	DRLPRO	06	A	P	PICK UP HUGHES Q506F BIT, SDI MOTOR #6336 HAS 18 HRS ONLY SLOW SPEED BENT HOUSING ON LOCATION (.16 RPG, 1.5 BEND) & INSTALL MWD TOOL, SCRIBE MWD & TRIP IN HOLE TO SHOE BREAK CIRCULATION 5' FLARE
	20:00	- 22:00	2.00	DRLPRO	09	Α	Р	SLIP CUT 58' OF DRILL LINE
0/04/0044		- 0;00	2.00	DRLPRO	06	A	P	TRIP IN HOLE TO 5114' BREAK CIRCULATION FOR 15 MIN NO TIGHT SPOTS
8/21/2011	0:00	- 2:00	2.00	DRLPRO	06	Α	P	TRIP IN HOLE TO 8067' BREAK CIRCULATION, REAM TIGHT SPOT AT 8100', WORK TIGHT SPOT, LOST RETURNS, LOST ALL MOVEMENT OF PIPE
	2:00	- 6:30	4.50	DRLPRO	22	А	Х	WORK PIPE CALL FOR FISHING HAND AND TOOLS @ 03:30, SET ALL STRING WEIGHT DOWN NO PUMP AND WORK TQ INTO STRING PIPE CAME FREE @ 05:00, GOT FULL MOVEMENT NO CIRCULATION, WORK PIPE IN ERSE AREA GOT FILL RETURNS @

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WORK PIPE IN FREE AREA GOT FULL RETURNS @ 05:30, PULL OUT OF HOLE 2 STANDS ABOVE TIGHT SPOT TO 8020', LOST ABOUT 400 BBL

### **Operation Summary Report**

Well: NBU 921-15C2S BLUE	Spud Conductor: 6/8/2011	Spud Date: 6/17/2011
Project: UTAH-UINTAH	Site: NBU 921-15C PAD	Rig Name No: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING	Start Date: 5/25/2011	End Date: 8/24/2011

Active Datum: RKB @4,805.00usft (above Mean Sea Level)					UWI: NE/NW/0/9/S/21/E/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation			
	6:30 - 10:30	4.00	DRLPRO	06	A	P	\\	PRECAUTIONARY WASH & REAM STANDS IN HOLE & CONDITION MUD F/ 8020 TO 8380', TIH TO 8829', WASH F/ 8829 TO 8923' TO ESTABLISH RETURNS, TIH TO 9330', STARTED TAKING WEIGHT, KELLY UP BREAK CIRCULATION REAM TO BOTTOM F/ 9330 TO 9879' TAKING 3K TO 11K, BOTTOMS UP 15' FLARE, LOST 200 BBL WHILE REAMING			
	17:00 - 17:20	6.50	DRLPRO	02	D	P		DRILL F/ 9879' TO 10,192' = 313' 48 FPH STKS #1 & #2 PUMPS 00/105, 473 GPM PSI OFF / ON BOTTOM 2275/2545 MOTOR RPM / ROTARY RPM, 76/50 TQ ON / OFF BOTTOM 11K/8K FT/LBS PU / SO / ROT WT 270 / 186/ 219 WT ON BIT 15K TO 22K ESTIMATED LOSSES @ 40BBL AN HR 260 BBL VIS 44, WT 11.1 LCM 20% DAILY RIG SERVICE			
	17:00 - 17:30	0.50	DRLPRO	07	A						
	17:30 - 0:00	6.50	DRLPRO	02	D	P		DRILL F/ 10,192' TO 10,420' = 228' 35 FPH STKS #1 & #2 PUMPS 00/105, 473 GPM PSI OFF / ON BOTTOM 2275/2545 MOTOR RPM / ROTARY RPM 76/50 TQ ON / OFF BOTTOM 11K/8K FT/LBS PU / SO / ROT WT 270 / 189/ 222 WT ON BIT 15K TO 22K NO LOSSES, VIS 44, WT 11.6 LCM 20%			
8/22/2011	0:00 - 3:30	3.50	DRLPRO	02	D	P		DRILL F/ 10,420' TO 10,532' = 112' 32 FPH STKS #1 & #2 PUMPS 00/105, 473 GPM PSI OFF / ON BOTTOM 2275/2545 MOTOR RPM / ROTARY RPM, 76/50 TQ ON / OFF BOTTOM 11K/8K FT/LBS PU / SO / ROT WT 270 / 189/ 222 WT ON BIT 15K TO 22K NO LOSSES, VIS 44, WT 11.6 LCM 20%			
	3:30 - 4:30	1.00	DRLPRO	05	С	Р		CIRCULATE PRIOR TO WIPER TRIP			
	4:30 - 10:00	5.50	DRLPRO	06	E	P		FLOW CHECK, NO FLOW, TRIP OUT FOR WIPER TRIP, PUMP AND ROTATE OUT TO 9198', TRIP OUT STRIAGHT PULL TO SHOE, NO TIGHT SPOTS, FLOW CHECK, NO FLOW, WELL TOOK PROPER FLUID			
	10:00 - 10:30	0.50	DRLPRO	05	Α	Р		CIRCULATE WEIGHT PILL FROM WELL BORE NO FLARE, FLOW CHECK, NO FLOW			
	10:30 - 15:30	5.00	DRLPRO	06	E	P		TRIP IN HOLE WIPER TRIP, BREAK CIRCULATION @ 5900', CONTINUE TRIP IN HOLE TO 8517' BREAK CIRCULATION, TRIP IN HOLE TO 10,463, BREAK CIRCULATION AND PRECAUTIONARY WASH AND REAM TO 10,532, NO TIGHT SPOTS DURING TRIP, NO FILL ON BOTTOM			
	15:30 - 16:30	1.00	DRLPRO	05	F	Р		PUMP SWEEP CLEAN HOLE PIROR TO TRIP OUT FOR LOGS, MUD IN 11.5, VIS 47, 22%, MUD OUT WT 11.4, VIS 47, 18%, 12' FLARE FOR 10 MINUTES			
	16:30 - 0:00	7.50	DRLPRO	06	В	P		TRIP OUT FOR LOGS, PUMP AND ROTATE OUT TO 8839', TRIP OUT STRIAGHT PULL TO SHOE, NO TIGHT SPOTS, FLOW CHECK, NO FLOW, TRIP OUT TO BHA FLOW CHECK NO FLOW, PULL ROTATING HEAD, TRIP OUT HWDP			

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### **Operation Summary Report**

Well: NBU 921-15C2S BLUE	Spud Conductor: 6/8/2011	Spud Date: 6/17/2011
Project: UTAH-UINTAH	Site: NBU 921-15C PAD	Rig Name No: ENSIGN 145/145, CAPSTAR 310/310
Event: DRILLING	Start Date: 5/25/2011	End Date: 8/24/2011
Active Datum: RKB @4,805.00usft (above	Mean Sea UWI: NE/NW/0/9/S/2	1/E/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0

evel)		David Company of the company	Charles to magazinesi d	F		Fotoer in t		Bry Williams, Santager 1988 S. L. Coul	
Date	S	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usff)	Operation
8/23/2011	0:00	- 1:30	1.50	DRLPRO	06	В	P		RIP OUT FOR LOGS, LAY DOWN BIT & MOTOR, BIT GRADED 1-5
	1:30 8:00	- 8:00 - 8:30	6.50 0.50	DRLPRO	11 07	D A	P	R O S	VAIT 1 HR ON LOGGERS, HELD SAFTEY MEETING RIG UP LOGGERS & LOG, 05:00 LOGS BRIDGED OUT @ 8880, LOG OUT FROM THERE, HELD FAFTEY MEETING RIG DOWN LOGGERS OALLY RIG SERVICE
	8:30					E	P		
		- 17:30	9.00	DRLPRO	06	E	۲	S B R 98 10	'RIP IN HOLE, PICK UP BIT & BIT SUB, TRIP IN TO SHOE CIRCULATE BOTTOMS UP NO FLARE, TRIP IN FREAK CIRCULATION @ 6500', TRIP IN TO 8863' REAM THROUGH BRIDGE TO 8874', TRIP IN HOLE TO 805' REAM TO 9890', TRIP IN TO 10'013 REAM TO 0'070, TRIP TO 10'438, WASH REAM LAST 90 TO SOTTOM
	17:30	- 19:30	2.00	DRLPRO	05	F	P	W Pi 10	CIRCULATE 2 HOLE CLEANING SWEEPS 80+ VIS VORK PIPE 1 FULL STAND WHILE CIRCULATING, PUMP SWEEPS 0' TO 12' FLARE FOR 15 MIN, MUD WT IN 11.4 MUD VT OUT 11.1
	19:30	- 0:00	4.50	DRLPRO	06	В	Р	FI PI N	LOW CHECK NO FLOW, TRIP OUT FOR LOGS, PUMP AND ROTATE OUT TO 9177', PUMP WEIGHTED ILL, NO FLOW, TRIP OUT STRIAGHT PULL TO 5319, IO TIGHT SPOTS, HOLE TOOK PROPER DISPLACEMENT
8/24/2011	0:00	- 3:30	3.50	DRLPRO	06	В	P	W FI	RIP OUT TO SHOE, NO TIGHT SPOTS, NO FLOW, VELL TOOK PROPER FLUID, TRIP OUT TO BHA, NO LOW, PULL ROTATE HEAD, TRIP OUT BHA, WELL OOK PROPER FLUID
	3:30	- 7:00	3.50	DRLPRO	11	D	Р		TTEMPT SECOND LOG, BRIDGE OUT AT 9165', ULL LOGS OUT AND RIG DOWN
	7:00	- 17:00	10.00	CSG	12	С	P	C, C, Cl 23 60	ULL WEAR BUSHING, READY RIG FLOOR FOR ASING CREW, HELD SAFTEY MEETING RIG UP ASING CREW RUN DCT P110 SHOE, FLOAT, 15 ENTRALIZERS, 18 JOINTS 4.5, 11.6, P110, BTC & 36 JOINTS 4.5,11.6, I-80 BTC CASING, FILL PIPE @ 029', WASATCH MARKER 5266', MVERDE MARKER 232'
	17:00	- 19:30	2.50	CSG	05	D	P	M AI IN	IRCULATE DOWN CASING, HELD SAFTEY IEETING RIG DOWN CASERS, SPOT BJ TRUCKS ND RIG UP TRUCKS, HELD SAFTEY MEETING ISTALL CEMENT HEAD AND BJ IRON, BOTTOM UP LARE 10'TO 15' FOR 25 MIN

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#### **US ROCKIES REGION Operation Summary Report** Spud Date: 6/17/2011 Spud Conductor: 6/8/2011 Well: NBU 921-15C2S BLUE Project: UTAH-UINTAH Site: NBU 921-15C PAD Rig Name No: ENSIGN 145/145, CAPSTAR 310/310 End Date: 8/24/2011 **Event: DRILLING** Start Date: 5/25/2011 UWI: NE/NW/0/9/S/21/E/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0 Active Datum: RKB @4,805.00usft (above Mean Sea Level) Date Phase Code P/U Operation Duration Sub MD From Time Start-End Code (usft) (hr) 19:30 - 22:00 CSG Р 2.50 12 Е HELD SAFTEY MEETING HOOK UP BJ LINES TO HEAD & PUMP, 10 BBL WATER AHEAD LEAD SCAVENGER 11 BBL,20 SACS, 11PPG, 3.16 **YEILD. 19.17 GPS** LEAD 258 BBL 630 SKS PL2 - 12.0 PPG, 2.30 YEILD, 12.70 GPS WATER TAIL 280 BBL 1202 SKS POZ 50/50 - 14.3 PPG 1.31 YEILD, 5.90 GPS WATER DROP PLUG DISPLACE WITH 163 BBL FRESH WATER WITH CLAY CARE & MAGNACIDE, BUMP PLUG TO 3794, FINAL LIFT 2750, 1044 PSI OVER, 2 BBL BACK TO TRUCK, FULL RETURNS, 5 BBL CEMENT BACK TO PIT, EST TOP OF LEAD CEMENT 0, TOP OF TAIL 4764, HELD SAFTEY MEETING RIG DOWN BJ, CLEANING PITS WHILE PUMPING CEMENT 22:00 - 23:59 CSG 1.98 FLUSH STACK, READY STACK TO SET SLIPS, SET SLIPS, WITH WEATHERFORD HAND 90K ON SLIPS, LIFT STACK & CUT CASING, CLEAN PITS. RELEASE RIG 8/25/2011 00:00

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#### **US ROCKIES REGION Operation Summary Report** Spud Conductor: 6/8/2011 Spud Date: 6/17/2011 Well: NBU 921-15C2S BLUE Site: NBU 921-15C PAD Rig Name No: ENSIGN 145/145, CAPSTAR 310/310 Project: UTAH-UINTAH Event: DRILLING Start Date: 5/25/2011 UWI: NE/NW/0/9/S/21/E/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0 Active Datum: RKB @4,805.00usft (above Mean Sea Level) Date Phase Code P/U Operation Duration Sub MD From Time Start-End (hr) Code (usft) - 0:00 CSG 23:59 0.02 PRODUCTION: Rig Move/Skid start date/time: 8/15/2011 2:00 Rig Move/Skid finish date/time: 8/15/2011 5:30 Total MOVE hours: 3.5 Prod Rig Spud date/time: 8/15/2011 20:30 Rig Release date/time: 8/24/2011 23:59 Total SPUD to RR hours: 219.5 Planned depth MD 10,525 Planned depth TVD 10,336 Actual MD: 10.532 Actual TVD: 10,325 Open Wells \$: AFE \$: Open wells \$/ft: PRODUCTION HOLE: Prod. From depth: Prod. To depth: 10.532 Total PROD hours: 108.5 Log Depth: Production Casing size: 4 1/2 # of casing joints ran: 251 10,525.0 Casing set MD: 1,850 # sx of cement: Cement blend (ppg:) SCAVENGER LEAD 11 LEAD 12, TAIL 14.3 Cement yield (ft3/sk): SCAVENGER LEAD 3.16, LEAD 2.3, TAIL 1.31 Est. TOC (Lead & Tail) or 2 Stage : LEAD @ SURFACE, TAIL @ 4764 Describe cement issues: NONE **LOSSING RETURNS 20%** Describe hole issues: LCM **DIRECTIONAL INFO:** KOP: 40 23.45 Max angle: Departure: 1311.29 Max dogleg MD: 6418.00

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General

#### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

#### 1.2 Well/Wellbore Information

UWI	NE/NW/0/9/S/21/E/15/0/0/26/PM/N/834.00/W/0	0/2,620.00/0/0		
Spud Date	6/17/2011	Active Datum	RKB @4,805.00usft (above Mean Sea Level)	
Start Date	10/20/2011	End Date	11/2/2011	
Rig Name/No.		Event	COMPLETION	
Project	UTAH-UINTAH	Site	NBU 921-15C PAD	
Report No.	1	Report Date	10/20/2011	
Well Name	NBU 921-15C2S	Wellbore Name	NBU 921-15C2S	
Well	NBU 921-15C2S BLUE	Wellbore No.	OH	

#### 1.3 General

Contractor	CASEDHOLE SOLUTIONS	Job Method	PERFORATE	Supervisor	ED GUDAC
Perforated Assembly	PRODUCTION CASING	Conveyed Method	WIRELINE		

#### 1.4 Initial Conditions

#### 1.5 Summary

Fluid Type		Fluid Density	Gross Interval	7,200.0 (usft	)-10,144.0 (us	Start Date/Time	10/24/2011	12:00AM
Surface Press		Estimate Res Press	No. of Intervals		36	End Date/Time	10/24/2011	12:00AM
TVD Fluid Top		Fluid Head	 Total Shots		0	Net Perforation Interval		62.00 (usft)
Hydrostatic Press		Press Difference	 Avg Shot Density		0.00 (shot/ft)	Final Surface Pressure		
Balance Cond	NEUTRAL					Final Press Date		

#### 2 Intervals

#### 2.1 Perforated Interval

Date Formation/ CCL@ CCL Reservoir (usft) S (usft)	(usft)	MD Base Shot (usft) Density (shot/ft)	[14일] 아이는 아니는 아이는 경기를 가지 않는데 그렇게 되고 있다. 그런 경기를 받는데 아이를 하는데 되었다.	Carr Size (in)	Phasing (°)	Charge Desc /Charge Charge Weight (gram)	Reason Misrun
10/24/201 WASATCH/	7,200.0	7,203.0	0.360 EXP/	3.375	120.00	23.0	00 PRODUCTIO
<b>∤1</b>							N
12:00AM							

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#### **US ROCKIES REGION**

#### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Misfires/ Density Add. Shot (shot/ft)	Diamete r (in)	Сагт Туре /Carr Manu	ıf Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Reason Weight (gram)	Misrun
10/24/201	WASATCH/			7,417.0	7,420.0		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	WASATCH/			7,568.0	7,570.0		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO	
12:00AM 10/24/201 1	WASATCH/		,	7,696.0	7,698.0		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	WASATCH/			7,798.0	7,800.0		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			8,302.0	8,306.0		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	: · ·
12:00AM 10/24/201 1	MESAVERDE/			8,358.0	8,362.0		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			8,561.0	8,563.0		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			8,580.0	8,582.0		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/		,	8,608.0	8,610.0		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/	: :		8,678.0	8,680.0		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			8,726.0	8,728.0		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			8,950.0	8,951.0		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			8,969.0	8,970.0		0.360	EXP/	3.375	90.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			8,998.0	9,001.0		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
12:00AM	* *** ** ** ** ** ** ** ** ** ** ** **					· · · · · · · · · · · · · · · · · · ·						enter de la proposación para la companya de la companya del companya de la companya de la companya del companya de la companya	

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**US ROCKIES REGION** 

#### 2.1 Perforated Interval (Continued)

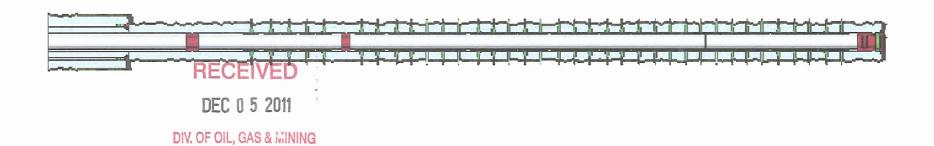
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr	Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Reason Weight (gram)	Misrun
10/24/201 1 12:00AM	MESAVERDE/	<b></b>		9,084.0	9,085.0			0.360	EXP/	SOUTH AND THE SO	3.375	120.00	1861 (N. 1861 (N. 1864) (N	23.00 PRODUCTIO N	
	MESAVERDE/			9,110.0	9,111.0			0.360	EXP/		3.375	120.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			9,278.0	9,280.0			0.360	EXP/		3.375	120.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			9,311.0	9,312.0	:		0.360	EXP/		3.375	90.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			9,360.0	9,362.0			0.360	EXP/		3.375	120.00		23.00 PRODUCTIO N	·
12:00AM 10/24/201 1	MESAVERDE/			9,468.0	9,469.0			0.360	EXP/		3.375	90.00		23.00 PRODUCTIO	
12:00AM 10/24/201 1	MESAVERDE/			9,485.0	9,486.0			0.360	EXP/		3.375	90.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			9,588.0	9,590.0			0.360	EXP/		3.375	90.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			9,648.0	9,649.0			0.360	EXP/		3.375	90.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			9,675.0	9,676.0			0.360	EXP/		3.375	90.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			9,731.0	9,732.0			0.360	EXP/		3.375	90.00	· · · · · · · · · · · · · · · · · · ·	23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			9,745.0	9,746.0			0.360	EXP/		3.375	90.00		23.00 PRODUCTIO N	
12:00AM 10/24/201 1	MESAVERDE/			9,782.0	9,783.0			0.360	EXP/		3.375	90.00		23.00 PRODUCTIO	,
12:00AM 10/24/201	MESAVERDE/			9,827.0	9,828.0			0.360	EXP/		3.375	90.00		N 23.00 PRODUCTIO	
12:00AM							<u></u>					:		N	

#### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc / Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
10/24/201 1 12:00AM	MESAVERDE/			9,844.0	9,845.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
10/24/201 1 12:00AM	MESAVERDE/			9,867.0	9,868.0			0.360	EXP/	3.375	90.00			PRODUCTIO N	
10/24/201 1 12:00AM	MESAVERDE/			9,940.0	9,942.0			0.360	EXP/	3.375	120.00			PRODUCTIO N	
10/24/201 1 12:00AM	MESAVERDE/			10,004.0	10,005.0			0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			10,019.0	10,020.0			0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			10,114.0	10,116.0			0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			10,142.0	10,144.0			0.360	EXP/	3.375	120.00			PRODUCTIO N	

#### 3 Plots

#### 3.1 Wellbore Schematic



November 18, 2011 at 3:40 pm 4 OpenWells

#### **US ROCKIES REGION Operation Summary Report** Well: NBU 921-15C2S BLUE Spud Conductor: 6/8/2011 Spud Date: 6/17/2011 Rig Name No: GWS 1/1 Project: UTAH-UINTAH Site: NBU 921-15C PAD End Date: 11/2/2011 **Event: COMPLETION** Start Date: 10/20/2011 UWI: NE/NW/0/9/S/21/E/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0 Active Datum: RKB @4,805.00usft (above Mean Sea Level) Date Phase Code Sub P/U MD From Operation Time Duration Start-End (hr) Code (usft) Р FILL SURFACE CSG, MIRU B&C QUICK TEST. 10/20/2011 7:00 - 11:00 4.00 COMP 33 PSI TEST T/ 1000 PSI, HELD FOR 15 MIN LOST 0 PSI. PSI TEST T/ 3500 PSI, HELD FOR 15 MIN LOST 31 PSI 1ST PSI TEST T/7000 PSI. HELD FOR 30 MIN LOST 81 PS NO COMMUNICATION WITH SURFACE CSG BLEED OFF PSI. SWIFN MOVE T/ NEXT WELL. COMP PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE 10/21/2011 - 11:00 4.00 SIZE, 90 DEG PHASING, RIH PERF AS PER PERF DESIGN. POOH. SWIFN 7:00 - 18:00 COMP FRAC STG 1)WHP 1735 PSI, BRK 4384 PSI @ 4.8 10/24/2011 11.00 BPM. ISIP 3268 PSI, FG .76 CALC HOLES OPEN @ 36.7 BPM @ 6400 PSI = 61% HOLES OPEN. ISIP 3139 PSI, FG .75 NPI -129 PSI. MP 6564 PSI, MR 38.6 BPM, AP 6318 PSI, AR 37.1 PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE, 90 DEG PHASING, RIH SET CBP @ 9898' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW FRAC STG 2)WHP 1227 PSI, BRK 4516 PSI @ 4.7 BPM. ISIP 3423 PSI, FG .79 CALC HOLES OPEN @ 36.8 BPM @ 5277 PSI = 96% HOLES OPEN. ISIP 3276 PSI, FG .77, NPI -147 PSI. MP 6589 PSI, MR 49.8 BPM, AP 6305 PSI, AR 45.2 PUMPED 30/50 MESH OTTAWA SAND IN THIS STAGE X-OVER FOR W L PERF STG 3)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 9706' P/U PERF AS PER PERF DESIGN.

### **RECEIVED**

NEW EMPLOYEES STAY AWAY FROM IRON WHILE PUMPING

HELD SAFETY MEETING: HIGH PRESSURE WITH

POOH.SWIFN

DEC 0 5 2011

DIV. OF OIL, GAS & MINING

10/25/2011

6:45

- 7:00

0.25

COMP

#### **Operation Summary Report**

Well: NBU 921-15C2S BLUE	Spud Conductor: 6/8/2011	Spud Date: 6/17/2011
Project: UTAH-UINTAH	Site: NBU 921-15C PAD	Rig Name No: GWS 1/1
Event: COMPLETION	Start Date: 10/20/2011	End Date: 11/2/2011

Active

Level)

nt: COMPLETION	Start Da	ite: 10/20/20	J11	End Date. 11/2/2011
ve Datum: RKB @4,805.00usft (above el)	Mean Sea	UWI: NE	/NW/0/9/S/21/E	E/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0
Date Time Di Start-End	uration Phase (hr)	Code	Sub P/U Code	MD From Operation (usft)
7:00 - 18:00	11.00 COMP	36	ВР	FRAC STG 3)WHP 2672 PSI, BRK 4640 PSI @ 4.8 BPM. ISIP 2859 PSI, FG .74 CALC HOLES OPEN @ 42.1 BPM @ 5985 PSI = 71% HOLES OPEN. ISIP 2907 PSI, FG .74, NPI 49 PSI. MP 6392 PSI, MR 52.8 BPM, AP 5811 PSI, AR 49.7 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L  PERF STG 4)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 9392' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW  FRAC STG 4)WHP 953 PSI, BRK 3877 PSI @ 4.7 BPM. ISIP 2532 PSI, FG .71 CALC HOLES OPEN @ 44.2 BPM @ 6186 PSI = 72% HOLES OPEN. ISIP 2725 PSI, FG .73, NPI 193 PSI. MP 6654 PSI, MR 50.3 BPM, AP 5730 PSI, AR 48.0

PERF STG 5)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 9031' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW

PUMPED 30/50 OTTAWA SAND IN THIS STAGE

FRAC STG 5)WHP 940 PSI, BRK 4978 PSI @ 4.8 BPM. ISIP 2078 PSI, FG .67 CALC HOLES OPEN @ 49.5 BPM @ 5670 PSI = 81% HOLES OPEN. ISIP 2561 PSI, FG .73, NPI 483 PSI. MP 6203 PSI, MR 50.3 BPM, AP 5507 PSI, AR 49.7 PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L

PERF STG 6)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8710' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW

FRAC STG 6)WHP 2201 PSI, BRK 2704 PSI @ 4.1 BPM. ISIP 2244 PSI, FG .71 CALC HOLES OPEN @ 49.9 BPM @ 5946 PSI = 77% HOLES OPEN. ISIP 2751 PSI, FG .76, NPI 451 PSI. MP 6247 PSI, MR 51.7 BPM, AP 5287 PSI, AR 49.8

PUMPED 30/50 OTTAWA SAND IN THIS STAGE

X-OVER FOR W L.

**BPM** 

X-OVER FOR W L

PERF STG 7)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN,

**RECEIVED** 

#### **US ROCKIES REGION Operation Summary Report** Spud Conductor: 6/8/2011 Spud Date: 6/17/2011 Well: NBU 921-15C2S BLUE Rig Name No: GWS 1/1 Site: NBU 921-15C PAD Project: UTAH-UINTAH Event: COMPLETION Start Date: 10/20/2011 End Date: 11/2/2011 UWI: NE/NW/0/9/S/21/E/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0 Active Datum: RKB @4.805.00usft (above Mean Sea Level) Code P/U Operation Date Phase Sub MD From Time Duration Start-End (usft) Code 23 GM. .36 HOLE SIZE, 120 DEG PHASING, RIH SET CBP @ 8412', P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW. FRAC STG 7)WHP 704 PSI, BRK 5028 PSI @ 4.7 BPM, ISIP 1893 PSI, FG .67. CALC HOLES OPEN @ 50 BPM @ 5133 PSI = 84% HOLES OPEN. ISIP 2511 PSI, FG .74, NPI 618 PSI. MP 5956 PSI, MR 50.7 BPM, AP 4860 PSI, AR 50.1 PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L PERF STG 8)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE, 90 DEG PHASING, RIH SET CBP @ 7850' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW. FRAC STG 8)WHP 460 PSI, BRK 2011 PSI @ 4.3 BPM. ISIP 1241 PSI, FG .60. CALC HOLES OPEN @ 49.6 BPM @ 5955 PSI = 61% HOLES OPEN. ISIP 2159 PSI, FG .72, NPI 918 PSI. MP 6053 PSI, MR 50.2 BPM, AP 5534 PSI, AR 49.7 PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L PERF STG 9)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 & 120 DEG PHASING. RIH SET CBP @ 7470' P/U PERF AS DESIGN. POOH, X-OVER FOR FRAC CREW. FRAC STG 9)WHP 1677 PSI, BRK 2202 PSI @ 3.8 BPM. ISIP 1717 PSI, FG .67. CALC HOLES OPEN @ 35.7 BPM @ 5766 PSI = 61% HOLES OPEN. ISIP 1595 PSI, FG .66, NPI -128 PSI. MP 6267 PSI, MR 50.3 BPM, AP 5082 PSI, AR 49.2 PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L PU 4 1/2 8K HAL CBP. RIH SET KILL PLUG @ 7150' POOH, SWI, DONE FRACING THIS WELL. TOTAL SAND = 132,691 LBS TOTAL CLFL = 7016 BBLS 11:00 - 16:00 COMP 31 MIRU, SPOT EQUIP, N/D WH, N/U 5K BOP, R/U 10/31/2011 5.00 FLOOR & TBG EQUIP, R/U HAL 9000 & FLOWLINE TO PIT, SPOT TBG TRAILER, P/U TBG, REMOVE THREAD PROTECTORS, TALLY & DRIFT TBG TO 3,800', SWI, SDFN. HSM, SLIPS, TRIPS & FALLS, P/U TBG, D/O PLUGS. 11/1/2011 7:00 - 7:15 0.25 COMP 48

				l	JS ROC	KIES R	EGION				
				Opera	ation S	Summa	ary Report				
Well: NBU 921-1	5C2S BLUE		Spud Cor	nductor:	6/8/2011		Spud Date: 6/	17/2011			
Project: UTAH-UI	INTAH		Site: NBL	921-15	C PAD			Rig Name No: GWS 1/1			
Event: COMPLET	TION		Start Date	e: 10/20/	2011			End Date: 11/2/2011			
Active Datum: Rk Level)	(B @4,805,00usft (ab	ove Mean Se	а	UWI: NE/NW/0/9/S/21/E/15/0/0/26/PM/N/8				34.00/W/0/2,620.00/0/0			
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation			
	7:15 - 17:00	9.75	СОМР	31	ł	Р		FINISH P/U TBG, REMOVE THREAD PROTECTORS, TALLY & DRIFT TBG TO KILL PLUG, R/U P/S, FILL TBG, BREAK CIRC, PRESS TEST BOP TO 3,000 PSI FOR 15 MIN, LOST 0 PSI, SURFACE CSG VALVE OPEN & LOCKED, START DRLG PLUGS.  C/O 25' SAND, TAG 1ST PLUG @ 7,155' DRL PLUG IN 12 MIN. 500 PSI INCREASE RIH, CSG PRESS 50 PSI.			
								C/O 30' SAND, TAG 2ND PLUG @ 7,450' DRL PLUG IN 10 MIN. 100 PSI INCREASE RIH, CSG PRESS 75 PSI.			
								C/O 30' SAND, TAG 3RD PLUG @ 7,830' DRL PLUG IN 9 MIN. 400 PSI INCREASE RIH, CSG PRESS 200 PSI.			
								C/O 25' SAND, TAG 4TH PLUG @ 8,412' DRL PLUG IN 10 MIN. 500 PSI INCREASE RIH, CSG PRESS 350 PSI.			
								C/O 25' SAND, TAG 5TH PLUG @ 8,705' DRL PLUG IN 8 MIN. 400 PSI INCREASE RIH, CSG PRESS 300 PSI.			
								C/O 30' SAND, TAG 6TH PLUG @ 9,031' DRL PLUG IN 9 MIN. 400 PSI INCREASE RIH, CSG PRESS 250 PSI.			
								C/O 25' SAND, TAG 7TH PLUG @ 9,392' DRL PLUG IN 10 MIN. 400 PSI INCREASE RIH, CSG PRESS 300 PSI.			
11/2/2011	7:00 - 7:15	0.25	СОМР	48		P		LET WELL CLEAN UP FOR 30 MIN, DRAIN UP & WINTERIZE EQUIP, SWI, SDFN. HSM, SLIPS, TRIPS & FALLS, BLEEDING OFF PRESS, LANDING TBG			

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DIV. OF OIL, GAS & MINING

#### **US ROCKIES REGION Operation Summary Report** Spud Conductor: 6/8/2011 Spud Date: 6/17/2011 Well: NBU 921-15C2S BLUE Site: NBU 921-15C PAD Rig Name No: GWS 1/1 Project: UTAH-UINTAH End Date: 11/2/2011 Event: COMPLETION Start Date: 10/20/2011 UWI: NE/NW/0/9/S/21/E/15/0/0/26/PM/N/834.00/W/0/2,620.00/0/0 Active Datum: RKB @4,805.00usft (above Mean Sea Date Phase Code P/U Operation Duration Sub MD From Time Start-End Code (usft) COMP P 7:15 - 12:00 4.75 44 C DEWINTERIZE EQUIP, SICP 2,100 PSI, OPEN WELL BLEED OFF PRESS, OPEN RAMS, FINISH D/O REMAINING 2 PLUGS, SURFACE CSG VALVE OPEN & LOCKED. C/O 25' SAND, TAG 8TH PLUG @ 9,706' DRL PLUG IN 9 MIN, 400 PSI INCREASE RIH, CSG PRESS 400 C/O 30' SAND, TAG 9TH PLUG @ 9,898' DRL PLUG IN 10 MIN. 600 PSI INCREASE RIH, CSG PRESS 450 PBTD @ 10,480', BTM PERF @ 10,144', RIH TO 10,353' NO TAG, 209' PAST BTM PERF W/ 326 JTS 2 3/8" L-80 TBG, LD 21 JTS, PU & STRIP IN TBG HANGER & LAND TBG W/ 305 JTS 2 3/8" L-80, EOT 9.685.54'. RD POWER SWIVEL, FLOOR & TBG EQUIP, ND BOPS, NU WH, DROP BALL TO SHEAR OFF BIT W/ 2,500 PSI, LET BIT FALL FOR 20 MIN. TURN OVER TO FLOW BACK CREW, RD & MOVE TO NEXT WELL ON PAD. KB= 13' 4 1/16" WEATHERFORD HANGER= .83' TBG **DELIVERED 314 JTS** 305 JTS 2 3/8" L-80 = 9,669.51' TBG USED 305 JTS POBS= 2.20' TBG RETURNED 0 JTS EOT @ 9,685.541 (KEPT 9 JTS ON LOCATION FOR NEXT WELL) TWTR= 7,016 BBLS TWR= 1,800 BBLS

RECEIVED
DEC 0 5 2011

TWLTR= 5,216 BBLS

DIV. OF OIL, GAS & MINING



Project: Uintah County, UT UTM12

Site: NBU 921-15C PAD Well: NBU 921-15C2S

Wellbore: OH Design: OH



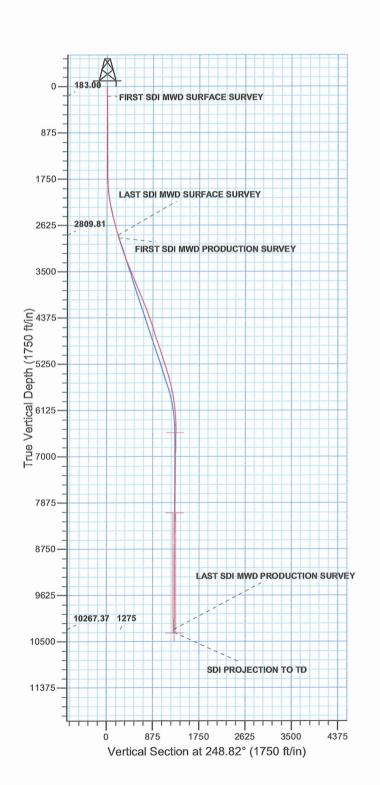
WELL DETAILS: NBU 921-15C2S

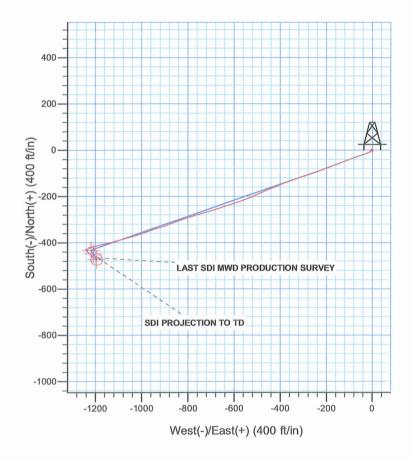
GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 14544382.90 2049820.69 40° 2' 28.061 N 109° 32' 14.269 W

Azimuths to True North
Magnetic North: 11.10°

Magnetic Field
Strength: 52349.2snT
Dip Angle: 65.89°
Date: 2011/06/09
Model: IGRF2010





#### PROJECT DETAILS: Uintah County, UT UTM12

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 - Western US
Ellipsold: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 15 T9S R21E
System Datum: Mean Sea Level

### **RECEIVED**

DEC 0 5 2011

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Design: OH (NBU 921-15C2S/OH)

Created By: RobertScott Date: 10:50, September 20 2011



# Kerr McGee Oil and Gas Onshore

### LP

Uintah County, UT UTM12 NBU 921-15C PAD NBU 921-15C2S

OH

Design: OH

# **Standard Survey Report**

20 September, 2011



DIV. OF OIL, GAS & MINING





Company:

Kerr McGee Oil and Gas Onshore LP

Project:

Uintah County, UT UTM12

Site: Well: NBU 921-15C PAD NBU 921-15C2S

ОН

ОН

Wellbore: Design:

Local Co-ordinate Reference:

TVD Reference:

MD Reference: North Reference:

Survey Calculation Method:

Database:

Well NBU 921-15C2S

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145) GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

True

Minimum Curvature EDM5000-RobertS-Local

Project

Uintah County, UT UTM12

Map System: Geo Datum:

Universal Transverse Mercator (US Survey Feet)

NAD 1927 - Western US

Map Zone:

Zone 12N (114 W to 108 W)

System Datum:

Mean Sea Level

Site

NBU 921-15C PAD, SECTION 15 T9S R21E

Site Position: From:

Lat/Long

Northing: Easting:

14,544,382.90 usft 2,049,820.68 usft

Latitude: Longitude: 40° 2' 28.061 N

**Position Uncertainty:** 

0.00 ft

Slot Radius:

13.200 in

**Grid Convergence:** 

109° 32' 14.269 W

0.94

Well **Well Position**  NBU 921-15C2S, 834 FNL 2620 FWL

+N/-S

+E/-W

0.00 ft 0.00 ft

Northing: Easting:

2011/06/09

0.00

14.544.382.90 usft 2,049,820.68 usft

Latitude: Longitude:

40° 2' 28.061 N 109° 32' 14.269 W

**Position Uncertainty** 

0.00 ft

Wellhead Elevation:

ft

**Ground Level:** 

4,792.00 ft

Wellbore

OH

Magnetics

**Model Name** 

**IGRF2010** 

Sample Date

Declination (°)

Dip Angle (°)

Field Strength

(nT)

52,349

Design

OH

Audit Notes: Version:

1.0

Phase:

**ACTUAL** 

Tie On Depth:

0.00

**Vertical Section:** 

+E/-W

11 10

Direction

Depth From (TVD) (ft)

+N/-S (ft)

0.00

(ft) 0.00 (°)

248.82

Survey Program

Date 2011/09/20

From To (ft)

(ft) Survey (Wellbore) **Tool Name** 

Description

5.00 2,885.00

2,832.00 Survey #1 SDI MWD SURFACE (OH) 10,532.00 Survey #2 SDI MWD PRODUCTION (OH)

MWD SDI MWD SDI MWD - Standard ver 1.0.1 MWD - Standard ver 1.0.1

65.89

Survey

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Section (ft)	Rate (°/100ft)	Rate (°/100ft)	Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
183.00	0.57	209.91	183.00	-0.77	-0.44	0.69	0.32	0.32	0.00
FIRST SDI N	IWD SURFACE	SURVEY							
273.00	0.86	231.13	272.99	-1.58	-1.19	1.68	0.43	0.32	23.58
366.00	0.58	295.67	365.98	-1.81	-2.16	2.67	0.86	-0.30	69.40
461.00	0.34	357.52	460.98	-1.32	-2.60	2.91	0.54	-0.25	65.11
556.00	0.50	279.78	555.98	-0.97	-3.02	3.17	0.57	0.17	-81.83
652.00	0.48	257,47	651.98	-0.99	-3.83	3.93	0.20	-0.02	-23.24
747.00	0.58	303.72	746.97	-0.81	-4.62 <sup>3</sup>			0.11	48.68

2011/09/20 10:45:25AM

Page 2

COMPASS 5000.1 Build 40





Company:

Kerr McGee Oil and Gas Onshore LP

Project:

Uintah County, UT UTM12

Site: Well: NBU 921-15C PAD NBU 921-15C2S

Wellbore: Design:

2011/09/20 10:45:25AM

ОН

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference:

Survey Calculation Method: Database:

Well NBU 921-15C2S

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

True

Minimum Curvature
EDM5000-RobertS-Local

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth (ft)	+N/-S	+E/-W (ft)	Section (ft)	Rate (°/100ft)	Rate (°/100ft)	Rate (°/100ft)
(ft)	(°)	(°)		(ft)	ANY				
842.00	0.07	299.99	841.97	-0.51	-5.07	4.91	0.54	-0.54	-3.93
937.00	0.26	271.92	936.97	-0.47	-5.33	5.15	0.21	0,20	-29.55
1,031.00	0.67	255.89	1,030.97	-0.60	-6.08	5.89	0.45	0.44	-17.05
1,127.00	0.39	270.12	1,126.96	-0.74	-6.95	6.75	0.32	-0.29	14.82
1,222.00	0.37	161.60	1,221.96	-1.03	-7.18	7.06	0.65	-0.02	-114.23
1,317.00	0.70	208.65	1,316.96	-1.83	-7.36	7.52	0.55	0.35	49.53
1,413.00	0.83	184.62	1,412.95	-3.04	-7.70	8.27	0.36	0.14	-25.03
1,508.00	0.73	170.81	1,507.94	-4.32	-7.66	8.70	0.22	-0.11	-14.54
1,604.00	1.03	209.80	1,603.93	-5,67	-7.99	9,50	0.68	0.31	40.61
1,698.00	2.23	229.04	1,697.89	-7.60	-9.79	11.87	1,39	1.28	20.47
1,793.00	2.45	240.57	1,792.81	-9.81	-12.95	15.62	0.55	0.23	12.14
1,887.00	4.05	248.16	1,886.66	-12.04	-17.78	20.93	1.76	1.70	8.07
1,982.00	5.32	254.82	1,981.34	-14.44	-25.15	28.67	1.45	1.34	7.01
2,077.00	7.22	249.85	2,075.77	-17.65	-35.00	39.01	2.08	2.00	-5.23
2,173.00	9.21	250.22	2,170.78	-22.33	-47.90	52.73	2.07	2.07	0.39
2,268.00	11.37	251.69	2,264.24	-27.84	-63.94	69.68	2.29	2.27	1.55
2,363.00	12.63	248.26	2,357.17	-34.63	-82.48	89.42	1,52	1.33	-3.61
2,456.00	12.76	250.17	2,447.89	-41.88	-101.59	109.86	0.47	0.14	2.05
2,551.00	14,48	250.11	2,540,22	-49.48	-122,63	132,22	1.81	1.81	-0.06
2,647.00	15.08	248.53	2,633.04	-58.13	-145.54	156.71	0.75	0.63	-1.65
2,742.00	17.64	251.81	2,724.19	-67.15	-170.72	183.45	2.86	2.69	3.45
2,832.00	18.27	249.77	2,809.81	-76.29	-196.91	211.17	0.99	0.70	-2.27
	WD SURFACE S	URVEY							
2,885.00	17.06	247.86	2,860.31	-82.09	-211.90	227.25	2.53	-2.28	-3.60
-	WD PRODUCTE		,						
2,976.00	16.69	249.94	2,947.39	-91.60	-236.54	253.66	0.78	-0.41	2.29
3,067.00	18,08	251.24	3,034.23	-100.63	-262.19	280.84	1.59	1.53	1.43
3,157.00	19.13	251,28	3,119.53	-109.85	-289,38	309.52	1.17	1.17	0.04
3,248.00	21.26	251.16	3,204.93	-119.97	-319.12	340.91	2.34	2.34	-0.13
3,339.00	21.71	250.22	3,289.61	-130.99	-350.57	374.22	0.62	0.49	-1.03
3,429.00	21.98	249.35	3,373.14	-142.56	-382.00	407.70	0.47	0.30	-0.97
3,520.00	23.39	247.86	3,457.10	-155.38	-414.67	442.79	1.67	1.55	-1.64
3,610.00	23.45	246.24	3,539.69	-169,32	-447.60	478.55	0.72	0.07	-1.80
3,701.00	22.95	245.66	3,623.33	-183.93	-480.34	514.35	0.60	-0.55	-0.64
3,791.00	22,34	246.19	3,706.39	-198.07	-511.98	548.96	0.71	-0.68	0.59
3,882.00	21.73	249.38	3,790.75	-210.98	-543.57	583.08	1.48	-0.67	3.51
3,973.00	21.47	249.90	3,875.36	-222.64	-574.97	616.57	0.35	-0.29	0.57
4,063.00	23.08	253.39	3,958.64	-233.34	-607.35	650.63	2.31	1.79	3.88
4,154.00	23.19	252.81	4,042.32	-243.74	-641.56	686.28	0.28	0.12	-0.64
4,244.00	22.21	253.06	4,125.35	-253.93	-674.76	720.93	1,09	-1.09	0.28
4,335.00	21.32	255.22	4,209.86	-263.16	-707.21	754.52	1.32	-0.98	2.37
4,426.00	20.04	251.80	4,295.00	-272.25	-738.02	786.53	1.93	-1.41	-3.76
4,516.00	18.22	251.93	4,380.03	-281.44	-766.05	815.98	2.02	-2.02	0.14

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Company:

Kerr McGee Oil and Gas Onshore LP

Project:

Uintah County, UT UTM12

Site: Well: NBU 921-15C PAD NBU 921-15C2S

Wellbore: OH Design: OH Local Co-ordinate Reference:

TVD Reference:

MD Reference: North Reference:

Survey Calculation Method:

Database:

Well NBU 921-15C2S

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

True

Minimum Curvature
EDM5000-RobertS-Local

						Vertical	Nam	Build	Turn
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Section	Dogleg Rate	Rate	Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
4,607.00	17.63	253.32	4,466.61	-289.80	-792.77	843.93	0.80	-0.65	1.53
4,697.00	17.99	250.76	4,552,30	-298.30	-818.95	871.41	0.96	0.40	-2.84
4,788.00	16.89	250.12	4,639.11	-307.42	-844.65	898.67	1.23	-1.21	-0.70
4,879.00	17.23	249.70	4,726.11	-316.59	-869.72	925.36	0.40	0.37	-0,46
4,969.00	18.90	251.70	4,811.67	-325.80	-896.07	953.25	1.98	1.86	2.22
5,060.00	18.72	251.69	4,897.81	-335.01	-923.92	982.55	0.20	-0.20	-0.01
5,150.00	19.02	251.38	4,982.97	-344,23	-951.53	1,011.63	0.35	0.33	-0.34
5,240.00	17.76	250.72	5,068.38	-353.45	-978.39	1,040.00	1.42	-1.40	-0.73
5,331.00	17.67	251.20	5,155.06	-362.48	-1,004.56	1,067.67	0.19	-0.10	0.53
5,422.00	18.47	252.57	5,241.57	-371.25	-1,031.39	1,095.85	1.00	0.88	1.51
5,512.00	17.70	257.05	5,327.13	-378.58	-1,058.33	1,123.62	1.77	-0.86	4.98
5,603.00	17.05	255,06	5,413.98	-385.12	-1,084.70	1,150.57	0.97	-0.71	-2.19
5,693.00	15.53	254.90	5,500.36	-391.67	-1,109.08	1,175.67	1.69	-1.69	-0.18
5,784.00	13.81	255.24	5,588.39	-397.61	-1,131.35	1,198.58	1.89	-1.89	0.37
5,875.00	12.69	254.81	5,676.97	-402.99	-1,151.50	1,219.31	1.24	-1.23	-0.47
5,965.00	11.61	255.31	5,764.95	-407.88	-1,169.80	1,238.14	1,21	-1.20	0.56
6,056.00	10.79	255.15	5,854.22	-412.38	-1,186.89	1,255.71	0.90	-0.90	-0.18
6,146.00	9.06	255.24	5,942.87	-416.35	-1,201.88	1,271.12	1.92	-1.92	0.10
6,237.00	8.07	253.99	6,032.85	-419.94	-1,214.95	1,284.61	1.11	-1.09	-1.37
6,328.00	6.60	252.96	6,123.10	-423.23	-1,226.09	1,296.18	1.62	-1.62	-1.13
6,418.00	4.04	249.80	6,212.71	-425.84	-1,234.01	1,304.51	2.86	-2.84	-3.51
6,509.00	2.64	240.21	6,303.55	-427.99	-1,238.84	1,309.79	1.65	-1.54	-10.54
6,599.00	0.62	207.43	6,393.51	-429.45	-1,240.87	1,312.21	2.38	-2.24	-36.42
6,690.00	1.09	153.13	6,484.50	<del>-4</del> 30.66	-1,240.70	1,312.49	0.97	0.52	-59.67
6,781.00	1.43	148.20	6,575.48	-432.40	-1,239.71	1,312.20	0.39	0.37	-5.42
6,871.00	1.80	135.47	6,665.45	-434.36	-1,238.13	1,311.43	0.57	0,41	-14.14
6,962.00	1.94	142.28	6,756.40	-436.60	-1,236.18	1,310.42	0.29	0.15	7.48
7,053.00	1.75	126,26	6,847.35	-438.64	-1,234.12	1,309.24	0.60	-0.21	-17.60
7,143.00	1.85	134.92	6,937.31	-440.48	-1,231.98	1,307.91	0.32	0.11	9.62
7,234.00	1.85	139.93	7,028.26	-442.64	-1,230.00	1,306.84	0.18	0.00	5.51
7,324.00	1.68	123.08	7,118.22	-444.47	-1,227.96	1,305.60	0.60	-0.19	-18.72
7,415.00	1.85	136.36	7,209.17	-446.26	-1,225.83	1,304.26	0.49	0.19	14.59
7,506.00	1.96	140.30	7,300.12	-448.52	-1,223.82	1,303.20	0.19	0.12	4.33
7,596.00	1.41	124.37	7,390.09	-450.33	-1,221.92	1,302.09	0.80	-0.61	-17.70
7,687.00	1.57	126.53	7,481.06	-451.70	-1,220.00	1,300.79	0.19	0.18	2.37
7,777.00	1.64	130.63	7,571.02	-453.28	-1,218.03	1,299.52	0.15	0.08	4.56
7,868.00	1.75	136.53	7,661.98	-455.13	-1,216.08	1,298.38	0.23	0.12	6.48
7,958.00	1.85	149.77	7,751.94	-457.39	-1,214.41	1,297.63	0.47	0.11	14.71
8,049.00	2.08	154.25	7,842.88	-460.14	-1,212.95	1,297.26	0.30	0.25	4.92
8,140.00	1.57	142.80	7,933.84	-462.62	-1,211.48	1,296.79	0.69	-0.56	-12.58
8,230.00	0.97	119.98	8,023.81	-463.99	-1,210.07	1,295.97	0.86	-0.67	-25.36
8,321.00	0.54	86.71	8,114.81	-464.35	-1,208.98	1,295.08	0.66	-0.47	-36.56
8,411.00	0.79	95.54	8,204.80	-464.38	-1,207.94	1,294.12	0.30	0.28	9,81
8,502.00	1.06	107.41	8,295.79	-464.69	-1,206.51	1,292.90	0.36	0.30	13.04

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COMPASS 5000.1 Build 40





Company:

Kerr McGee Oil and Gas Onshore LP

Project:

Uintah County, UT UTM12

Site: Well: NBU 921-15C PAD NBU 921-15C2S

Wellbore: ОН ОН Design:

Local Co-ordinate Reference:

**TVD Reference:** 

MD Reference: North Reference:

Survey Calculation Method:

Database:

Well NBU 921-15C2S

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

Minimum Curvature EDM5000-RobertS-Local

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Section (ft)	Rate (°/100ft)	Rate (°/100ft)	Rate (°/100ft)
8,593.00	1.23	118.66	8,386.77	-465.41	-1,204.85	1,291.62	0.31	0.19	12.36
8,683.00	1.41	123.49	8,476.75	-466.49	-1,203.08	1,290.35	0.23	0.20	5.37
8,774.00	1.67	121.91	8,567.71	-467.81	-1,201.02	1,288.91	0.29	0.29	-1.74
8,864.00	1.76	126.04	8,657.67	-469.31	-1,198.79	1,287.37	0.17	0.10	4.59
8,955,00	1.46	124.01	8,748.64	-470.78	-1,196.70	1,285.95	0.34	-0.33	-2.23
9,046.00	0.98	102.39	8,839.62	-471.60	-1,194.98	1,284.64	0.72	-0.53	-23.76
9,136.00	0.48	50.36	8,929.61	<del>-4</del> 71.52	-1,193.93	1,283.64	0.87	-0.56	-57.81
9,227.00	0.26	29.44	9,020.61	<b>-4</b> 71.10	-1,193.54	1,283.12	0.28	-0.24	-22.99
9,317.00	1.08	346.33	9,110.60	-470.10	-1,193.64	1,282.85	1.01	0.91	-47.90
9,408.00	0.91	1.73	9,201.59	-468.54	-1,193.82	1,282.46	0.35	-0.19	16,92
9,498.00	1.42	346.94	9,291.57	-466.74	-1,194.05	1,282.03	0.65	0.57	-16.43
9,589.00	1.41	347.53	9,382.54	-464.55	-1,194.55	1,281.70	0.02	-0.01	0.65
9,680.00	1.06	340.14	9,473.52	-462.67	-1,195.07	1,281.51	0.42	-0.38	-8.12
9,770.00	0.62	323.53	9,563.51	-461.49	-1,195.65	1,281.62	0.55	-0.49	-18.46
9,862.00	0.65	317.40	9,655.51	-460.71	-1,196.30	1,281.94	0.08	0.03	-6.66
9,952.00	0.35	22.59	9,745.50	-460.08	-1,196.54	1,281.94	0.66	-0.33	72.43
10,043.00	0.53	102.22	9,836.50	-459.91	-1,196.02	1,281.39	0.64	0.20	87.51
10,134.00	0.98	103.24	9,927.49	-460.18	-1,194.85	1,280.40	0.49	0.49	1.12
10,224.00	1.06	116 <i>.</i> 37	10,017.48	-460.72	-1,193.35	1,279.20	0.27	0.09	14.59
10,315.00	1.49	124.81	10,108.46	-461.77	-1,191.63	1,277.97	0.51	0.47	9.27
10,405.00	1.81	120.22	10,198.42	-463,16	-1,189.44	1,276.43	0.38	0.36	<b>-</b> 5.10
10,474.00	2.29	124.37	10,267.37	-464.48	-1,187.36	1,274.97	0.73	0.70	6.01
LAST SDI MI	WD PRODUCTIO	N SURVEY							

Design Annotations				en de la composition de la composition La destactación de la composition de l
Measured	Vertical	Local Coor	rdinates	
Depth	Depth (4)	+N/-S	+E/-W	
(ft)	(ft)	(ft) 	<b>(n</b> )	Comment
183,00	183.00	-0.77	-0.44	FIRST SDI MWD SURFACE SURVEY
2,832.00	2,809.81	-76.29	-196.91	LAST SDI MWD SURFACE SURVEY
2,885.00	2,860.31	-82.09	-211.90	FIRST SDI MWD PRODUCTION SURVEY
10,474.00	10,267.37	-464.48	-1,187.36	LAST SDI MWD PRODUCTION SURVEY
10,532.00	10,325.33	-465.79	-1,185.45	SDI PROJECTION TO TD

Checked By:	Approved By:	Date:

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DEC 0 5 2011



# Kerr McGee Oil and Gas Onshore

### LP

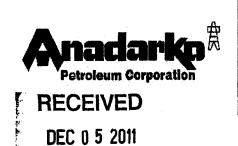
Uintah County, UT UTM12 NBU 921-15C PAD NBU 921-15C2S

OH

Design: OH

# **Survey Report - Geographic**

20 September, 2011



DIV. OF OIL, GAS & MINING



#### SDI Survey Report - Geographic



Company:

Kerr McGee Oil and Gas Onshore LP

Project: Site:

Uintah County, UT UTM12 NBU 921-15C PAD

NBU 921-15C2S

Well: Wellbore: Design:

OH ОН Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Database:

Well NBU 921-15C2S

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145) True

Minimum Curvature EDM5000-RobertS-Local

**Project** Uintah County, UT UTM12

Map System: Geo Datum:

Universal Transverse Mercator (US Survey Feet)

NAD 1927 - Western US

Map Zone:

Zone 12N (114 W to 108 W)

System Datum:

Mean Sea Level

Site

NBU 921-15C PAD, SECTION 15 T9S R21E

Site Position: From:

Lat/Long

Northing: Easting:

14,544,382.90 usft 2.049.820.68 usft

Longitude:

Latitude:

40° 2' 28.061 N

109° 32' 14.269 W

**Position Uncertainty:** 

0.00 ft

Slot Radius:

13.200 in

**Grid Convergence:** 

0.94°

Well

NBU 921-15C2S, 834 FNL 2620 FWL

Well Position

+N/-S +E/-W 0.00 ft 0.00 ft Northing: Easting:

14,544,382.90 usft 2,049,820.68 usft Latitude: Longitude: **Ground Level:**  40° 2' 28.061 N

109° 32' 14.269 W

**Position Uncertainty** 

0.00 ft

Wellhead Elevation:

11.10

fŧ

4,792.00 ft

Wellbore

OH

Magnetics

**Model Name** 

**IGRF2010** 

Sample Date

Declination (°)

**Dip Angle** (°)

**Field Strength** 

(nT)

OH

Design **Audit Notes:** Version:

1.0

Phase:

0.00

2011/06/09

**ACTUAL** 

Tie On Depth:

0.00

0.00

52 349

+E/-W

65.89

**Vertical Section:** 

Depth From (TVD)

10,532.00 Survey #2 SDI MWD PRODUCTION (OH)

+N/-S (ft)

0.00

Direction (°)

248,82

2011/09/20 **Survey Program** Date

(ft)

To (ft)

Survey (Wellbore)

**Tool Name** 

Description

5.00 2,885.00 2,832.00 Survey #1 SDI MWD SURFACE (OH)

MWD SD! MWD SDI

MWD - Standard ver 1.0.1 MWD - Standard ver 1.0.1

urvey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (R)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0,00	0.00	0.00	0.00	14,544,382.90	2,049,820.68	40° 2' 28.061 N	109° 32' 14.269 V
5.00	0.00	0.00	5.00	0.00	0.00	14,544,382.90	2,049,820.68	40° 2' 28.061 N	109° 32' 14.269 V
183.00	0.57	209.91	183.00	-0.77	-0.44	14,544,382.12	2,049,820.25	40° 2' 28.053 N	109° 32' 14.275 V
FIRST SI	DI MWD SURF	ACE SURVE	Υ						
273.00	0.86	231.13	272.99	-1.58	-1.19	14,544,381.30	2,049,819.52	40° 2' 28.045 N	109° 32' 14.285 \
366.00	0.58	295.67	365,98	-1.81	-2.16	14,544,381.05	2,049,818.56	40° 2' 28.043 N	109° 32' 14.297 V
461.00	0.34	357.52	460.98	-1.32	-2.60	14,544,381.53	2,049,818.10	40° 2' 28.048 N	109° 32′ 14.303 V
556.00	0.50	279.78	555.98	-0.97	-3.02	14,544,381.88	2,049,817.68	40° 2' 28.051 N	109° 32' 14.308 V
652.00	0.48	257.47	651.98	-0.99	-3.83	14,544,381.85	2,049,816.87	40° 2' 28.051 N	109° 32′ 14.318 V
747.00	0.58	303.72	746.97	-0.81	-4.62	14,544,382.02	2,049,816.08	40° 2' 28.053 N	109° 32′ 14.329 V
842.00	0.07	299.99	841.97	-0.51	-5.07	14,544,382.30	2,049,815.62	40° 2' 28.056 N	109° 32' 14.334 V

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COMPASS 5000.1 Build 40



#### **SDI** Survey Report - Geographic



Company:

Kerr McGee Oil and Gas Onshore LP

Project:

Uintah County, UT UTM12

Site: Well: NBU 921-15C PAD NBU 921-15C2S

Wellbore: OH Design: OH Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Database:

Well NBU 921-15C2S

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

True

Minimum Curvature EDM5000-RobertS-Local

Weasured			Vertical			Map	Map		
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (R)	Northing (usft)	Easting (usft)	Latitude	Longitude
937.00	0.26	271.92	936.97	-0.47	-5,33	14,544,382,34	2,049,815.36	40° 2′ 28.056 N	109° 32′ 14.33
1,031.00	0.67	255.89	1,030.97	-0.60	-6.08	14,544,382.20	2,049,814.61	40° 2' 28.055 N	109° 32' 14.34
1,127.00	0.39	270.12	1,126.96	-0.74	-6.95	14,544,382.05	2,049,813.75	40° 2' 28.054 N	109° 32' 14.35
1,222.00	0.37	161.60	1,221.96	-1.03	-7.18	14,544,381.75	2,049,813.52	40° 2' 28.051 N	109° 32' 14.36
1,317.00	0.70	208.65	1,316.96	-1.83	-7.36	14,544,380.95	2,049,813.36	40° 2' 28.043 N	109° 32' 14.36
1,413.00	0.83	184.62	1,412.95	-3.04	-7.70	14,544,379.74	2,049,813.04	40° 2' 28.031 N	109° 32' 14.36
1,508.00	0.73	170.81	1,507.94	-4.32	-7.66	14,544,378.45	2,049,813.10	40° 2' 28.018 N	109° 32' 14.36
1,604.00	1.03	209.80	1,603.93	-5.67	-7.99	14,544,377.10	2,049,812.79	40° 2' 28.005 N	109° 32' 14.37
1,698.00	2.23	229.04	1,697.89	-7.60	-9.79	14,544,375.13	2,049,811.02	40° 2' 27.986 N	109° 32' 14.39
1,793.00	2.45	240.57	1,792.81	-9,81	-12.95	14,544,372.87	2,049,807.89	40° 2' 27.964 N	109° 32' 14.43
1,887.00	4.05	248.16	1,886.66	-12.04	-17.78	14,544,370.57	2,049,803.10	40° 2' 27,942 N	109° 32' 14.49
1,982.00	5.32	254.82	1,981.34	-14.44	-25.15	14,544,368.05	2,049,795.78	40° 2' 27.918 N	109° 32' 14.59
2,077.00	7.22	249.85	2,075.77	-17.65	-35.00	14,544,364.68	2,049,785.97	40° 2' 27.886 N	109° 32' 14.71
2,173.00	9.21	250.22	2,170.78	-22.33	-47.90	14,544,359.79	2,049,773.16	40° 2' 27.840 N	109° 32' 14.88
2,268.00	11.37	251,69	2,264.24	-27.84	-63,94	14,544,354.01	2,049,757,21	40° 2' 27.786 N	109° 32' 15.09
2,363.00	12.63	248.26	2,357.17	-34,63	-82.48	14,544,346.92	2,049,738.78	40° 2' 27.718 N	109° 32' 15,33
2,456.00	12.76	250.17	2,447.89	-41.88	-101.59	14,544,339.36	2,049,719,80	40° 2' 27.647 N	109° 32' 15,57
2,551.00	14.48	250.11	2,540.22	-49.48	-122.63	14,544,331.41	2,049,698.89	40° 2' 27.572 N	109° 32' 15.84
2,647.00	15.08	248.53	2,633.04	-58.13	-145.54	14,544,322.38	2,049,676.12	40° 2' 27.486 N	109° 32' 16.14
2,742.00	17.64	251.81	2,724.19	-67.15	-170.72	14,544,312.95	2,049,651.09	40° 2' 27.397 N	109° 32' 16.46
2,832.00	18.27	249.77	2,809.81	-76.29	-196.91	14,544,303.39	2,049,625.06	40° 2' 27,307 N	109° 32' 16.80
LAST SD	I MWD SURF		•				, ,		
2,885.00	17.06	247.86	2,860.31	-82.09	-211.90	14,544,297.34	2,049,610.16	40° 2' 27.249 N	109° 32' 16.99
	O MWD PROD		•			,,	_,,		
2,976.00	16.69	249.94	2,947.39	-91.60	-236.54	14,544,287.42	2,049,585.68	40° 2' 27.155 N	109° 32' 17.31
3,067.00	18.08	251.24	3,034.23	-100.63	-262.19	14,544,277.98	2,049,560.18	40° 2' 27.066 N	109° 32' 17.64
3,157.00	19.13	251.28	3,119.53	-109.85	-289.38	14,544,268.31	2,049,533.15	40° 2' 26.975 N	109° 32' 17.99
3,248.00	21,26	251.16	3,204.93	-119.97	-319.12	14,544,257.71	2,049,503.58	40° 2' 26,875 N	109° 32' 18.37
3,339.00	21.71	250,22	3,289.61	-130.99	-350.57	14,544,246.17	2,049,472.31	40° 2' 26.766 N	109° 32' 18.77
3,429.00	21.98	249.35	3,373.14	-142.56	-382.00	14,544,234.08	2,049,441.08	40° 2' 26.652 N	109° 32' 19.18
3,520.00	23.39	247.86	3,457.10	-155.38	-414.67	14,544,220.73	2,049,408.63	40° 2' 26.525 N	109° 32' 19.60
3,610.00	23.45	246.24	3,539.69	-169.32	-447.60	14,544,206.24	2,049,375.92	40° 2' 26.387 N	109° 32' 20.02
3,701.00	22.95	245.66	3,623.33	-183.93	-480.34	14,544,191.10	2,049,343,43	40° 2' 26,243 N	109° 32' 20.44
3,791.00	22.34	246.19	3,706.39	-198.07	-511.98	14,544,176.45	2,049,312.03	40° 2' 26.103 N	109° 32' 20.85
3,882.00	21.73	249.38	3,790.75	-210.98	-543.57	14,544,163.01	2,049,280.66	40° 2' 25.975 N	109° 32' 21.25
3,973.00	21.47	249.90	3,875.36	-222.64	-574.97	14,544,150.84	2,049,249.45	40° 2' 25.860 N	109° 32' 21.66
4,063.00	23.08	253.39	3,958.64	-233.34	-607.35	14,544,139.61	2,049,217.25	40° 2' 25.754 N	109° 32' 22.07
4,154.00	23.19	252.81	4,042.32	-243.74	-641.56	14,544,128.65	2,049,183.22	40° 2' 25.651 N	109° 32' 22.51
4,244.00	22.21	253.06	4,125.35	-253.93	-674.76	14,544,117.92	2,049,150.19	40° 2' 25.551 N	109° 32' 22.94
4,335.00	21,32	255.22	4,209.86	-263.16	-707.21	14,544,108.15	2,049,117.89	40° 2' 25.459 N	109° 32' 23,36
4,426.00	20.04	251.80	4,295.00	-272.25	-738.02	14,544,098.56	2,049,087.24	40° 2' 25.370 N	109° 32' 23.76
4,516.00	18.22	251.93	4,380.03	-281.44	-766.05	14,544,088.92	2,049,059.36	40° 2' 25.279 N	109° 32' 24.12
4,607.00	17.63	253.32	4,466.61	-289.80	-792.77	14,544,080.11	2,049,032.78	40° 2' 25,196 N	109° 32' 24.46
4,697.00	17.99	250.76	4,552.30	-298.30	-818.95	14,544,071.19	2,049,006.74	40° 2' 25.112 N	109° 32' 24.80
4,788.00	16.89	250,12	4,639.11	-307.42	-844.65	14,544,061.64	2,048,981.20	40° 2' 25,022 N	109° 32' 25.13
4,879.00	17.23	249.70	4,726.11	-316.59	-869.72	14,544,052.06	2,048,956.28	40° 2' 24.931 N	109° 32' 25.45
4,969.00	18.90	251.70	4,811.67	-325.80	-896.07	14,544,042.43	2,048,930.09	40° 2' 24.840 N	109° 32' 25.79
5,060.00	18.72	251.69	4,897.81	-335.01	-923.92	14,544,032.76	2,048,902.39	40° 2' 24.749 N	109° 32' 26.15
5,150.00	19.02	251.38	4,982.97	-344.23	-951.53	14,544,023.08	2,048,874.94	40° 2' 24.658 N	109° 32' 26,50
5,240.00	17.76	250.72	5,068.38	-353.45	-978.39	14,544,013.43	2,048,848.24	40° 2' 24.567 N	109° 32' 26.85
5,331.00	17.67	251.20	5,155.06	-362.48	-1,004.56	14,544,003.97	2,048,822.21	40° 2' 24.478 N	109° 32' 27.18
5,422.00	18.47	252.57	5,241.57	-371.25	-1,031.39	14,543,994.76	2,048,795.53	40° 2' 24.391 N	109° 32' 27.53
5,512.00	17.70	257.05	5,327.13	-378.58	-1,058.33	14,543,986.98	2,048,768.72	40° 2' 24.318 N	109° 32' 27.87
5,603.00	17.05	255,06	5,413,98	-385,12	-1,084.70	14,543,980.01	2,048,742.46	40° 2' 24.254 N	109° 32' 28,21
5,693.00	15.53	254.90	5,500.36	-391.67	-1,109.08	14,543,973,07	2,048,718,19	40° 2' 24,189 N	109° 32' 28.53

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COMPASS 5000.1 Build 40

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#### SDI Survey Report - Geographic



Company:

Kerr McGee Oil and Gas Onshore LP

Project:

Uintah County, UT UTM12

Site: Well: NBU 921-15C PAD NBU 921-15C2S

ОН

ОН

Wellbore: Design:

Local Co-ordinate Reference: TVD Reference:

Well NBU 921-15C2S

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145) GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

North Reference:

True

Minimum Curvature Survey Calculation Method:

Database:

MD Reference:

EDM5000-RobertS-Local

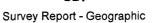
						강하는 하는 아내가 가는 사람들이 되었다.	하는데,		장면하고 못하는 것이 가장 보다?
Measured			Vertical			Map	Map		
Depth	Inclination	Azimuth	Depth (ft)	+N/-S	+E/-W	Northing (usft)	Easting (usft)		
(ft)	(°)	(°)	(10)	(ft)	(ft)	(usit)	(dait)	Latitude	Longitude
5,784.00	13.81	255.24	5,588.39	-397,61	-1,131.35	14,543,966.76	2,048,696.02	40° 2' 24,130 N	109° 32' 28.81
5,875.00	12.69	254.81	5,676.97	-402.99	-1,151.50	14,543,961.05	2,048,675.97	40° 2' 24.077 N	109° 32' 29.07
5,965.00	11.61	255.31	5,764.95	-407.88	-1,169.80	14,543,955.86	2,048,657.75	40° 2' 24.029 N	109° 32' 29.31
6,056.00	10.79	255.15	5,854.22	-412.38	-1,186.89	14,543,951.07	2,048,640.73	40° 2' 23.984 N	109° 32' 29.53
6,146.00	9.06	255.24	5,942.87	-416.35	-1,201,88	14,543,946.86	2,048,625.80	40° 2' 23.945 N	109° 32' 29.72
6,237.00	8.07	253.99	6,032.85	<b>-</b> 419.94	-1,214.95	14,543,943.06	2,048,612.80	40° 2' 23.910 N	109° 32' 29.89
6,328.00	6.60	252.96	6,123.10	-423.23	-1,226.09	14,543,939.59	2,048,601.71	40° 2' 23.877 N	109° 32' 30.03
6,418.00	4.04	249.80	6,212.71	-425.84	-1,234.01	14,543,936.85	2,048,593.83	40° 2' 23.851 N	109° 32' 30.13
6,509.00	2.64	240.21	6,303.55	-427.99	-1,238.84	14,543,934.62	2,048,589.04	40° 2' 23.830 N	109° 32' 30.20
6,599.00	0.62	207.43	6,393.51	-429.45	-1,240.87	14,543,933,12	2,048,587.04	40° 2' 23,816 N	109° 32' 30.22
6,690.00	1.09	153,13	6,484.50	-430.66	-1,240.70	14,543,931.92	2,048,587.23	40° 2' 23.804 N	109° 32' 30.22
6,781.00	1.43	148.20	6,575.48	-432.40	-1,239.71	14,543,930.20	2,048,588.24	40° 2' 23.786 N	109° 32' 30.21
6,871.00	1.80	135.47	6,665.45	-434.36	-1,238.13	14,543,928.26	2,048,589.86	40° 2' 23.767 N	109° 32' 30.19
6,962.00	1.94	142.28	6,756.40	-436.60	-1,236.18	14,543,926.05	2,048,591.84	40° 2' 23.745 N	109° 32' 30.16
7,053.00	1.75	126.26	6,847.35	-438.64	-1,234.12	14,543,924.05	2,048,593.94	40° 2' 23.725 N	109° 32' 30.13
7,143.00	1.85	134.92	6,937.31	-440,48	-1,231.98	14,543,922,25	2,048,596.10	40° 2' 23,707 N	109° 32' 30,11
7,234.00	1.85	139.93	7,028.26	-442.64	-1,230.00	14,543,920.12	2,048,598.12	40° 2' 23.685 N	109° 32' 30.08
7,324.00	1.68	123.08	7,118.22	-444.47	-1,227.96	14,543,918.32	2,048,600.19	40° 2' 23.667 N	109° 32' 30.06
7,415.00	1.85	136.36	7,209.17	-446.26	-1,225.83	14,543,916.56	2,048,602.36	40° 2' 23.649 N	109° 32' 30.03
7,506.00	1.96	140.30	7,300.12	-448.52	-1,223.82	14,543,914.34	2,048,604.40	40° 2' 23.627 N	109° 32' 30.00
7,596.00	1.41	124.37	7,390.09	-450.33	-1,221.92	14,543,912.56	2,048,606.33	40° 2' 23.609 N	109° 32' 29,98
7,687.00	1.57	126,53	7,481.06	-451,70	-1,220.00	14,543,911.22	2,048,608,27	40° 2' 23,596 N	109° 32' 29.95
7,777.00	1.64	130.63	7,571.02	-453.28	-1,218.03	14,543,909.68	2,048,610.27	40° 2' 23.580 N	109° 32' 29.93
7,868.00	1.75	136.53	7,661.98	-455.13	-1,216.08	14,543,907.85	2,048,612.24	40° 2' 23.562 N	109° 32' 29.90
7,958.00	1.85	149.77	7,751.94	-457.39	-1,214.41	14,543,905.63	2,048,613.96	40° 2' 23.539 N	109° 32' 29.88
8,049.00	2.08	154.25	7,842.88	-460.14	-1,212.95	14,543,902.90	2,048,615.46	40° 2' 23.512 N	109° 32' 29.86
8,140.00	1.57	142.80	7,933.84	-462.62	-1,211.48	14,543,900.44	2,048,616.97	40° 2' 23,488 N	109° 32' 29,84
8,230.00	0.97	119.98	8,023.81	-463.99	-1,210.07	14,543,899.10	2,048,618.40	40° 2' 23.474 N	109° 32' 29.83
8,321.00	0.54	86.71	8,114.81	-464.35	-1,208.98	14,543,898.76	2,048,619.50	40° 2' 23.471 N	109° 32' 29.81
8,411.00	0.79	95.54	8,204.80	-464.38	-1,207.94	14,543,898.74	2,048,620.54	40° 2' 23.470 N	109° 32' 29.80
8,502.00	1.06	107.41	8,295.79	-464.69	-1,206.51	14,543,898.45	2,048,621.97	40° 2' 23.467 N	109° 32' 29.78
8,593.00	1.23	118.66	8,386.77	-465.41	-1,204.85	14,543,897.76	2,048,623.64	40° 2' 23.460 N	109° 32' 29.76
8,683.00	1.41	123.49	8,476.75	-466.49	-1,203.08	14,543,896.71	2,048,625.43	40° 2' 23.449 N	109° 32' 29.74
8,774.00	1.67	121.91	8,567.71	-467.81	-1,201.02	14,543,895.43	2,048,627.51	40° 2' 23.436 N	109° 32' 29.71
	1.76	126.04	8,657.67	-469.31	-1,198.79	14,543,893.96	2,048,629.77	40° 2' 23.422 N	109° 32' 29.68
8,864.00 8,955.00	1.46	124.01	8,748.64	-470.78	-1, 196.79	14,543,892.52	2,048,631.88	40° 2' 23.407 N	109° 32' 29.65
9,046.00	0.98	102.39	8,839.62	-470.78 -471.60	-1,194,98	14,543,891.73	2,048,633.62	40° 2' 23,399 N	109° 32' 29.63
9,136.00	0.48	50.36	8,929.61	-471.52	-1,193.93	14,543,891.83	2,048,634.66	40° 2' 23.400 N	109° 32' 29,62
9,227.00	0.46	29.44	9,020.61	-471.10	-1,193.54	14,543,892.26	2,048,635.05	40° 2' 23,404 N	109° 32' 29,61
	1.08	346.33	9,110.60	-470.10	-1,193.64	14,543,893.26	2,048,634.93	40° 2' 23.414 N	109° 32' 29.61
9,317.00	0.91	1.73	9,110.60	-470.10 -468.54	-1,193.82	14,543,894.81	2,048,634.72	40° 2' 23.429 N	109° 32' 29.62
9,408.00			9,201.59		-1,193.02		2,048,634.46	40° 2' 23,447 N	109° 32' 29.62
9,498.00	1.42	346.94		-466.74	•	14,543,896.61	2,048,633.93	40° 2' 23,469 N	109° 32' 29.63
9,589.00	1.41	347.53	9,382.54	-464.55	-1,194.55 1,105.07	14,543,898.79			109 32 29.63
9,680.00	1.06	340.14	9,473.52	-462.67	-1,195.07 -1,195.65	14,543,900.66	2,048,633,37 2,048,632.78	40° 2' 23,487 N 40° 2' 23,499 N	109 32 29.63 109° 32' 29.64
9,770.00	0.62	323.53	9,563.51	-461.49 -460.71		14,543,901.83		40° 2' 23.507 N	109 32 29.64 109° 32' 29.65
9,862.00	0.65	317.40	9,655.51	-460.71	-1,196.30 1 106.54	14,543,902.60	2,048,632.12 2,048,631.87		109° 32' 29.65
9,952.00	0.35	22.59	9,745.50	-460.08	-1,196.54	14,543,903.23		40° 2' 23.513 N	
10,043.00	0.53	102.22	9,836.50	-459.91	-1,196.02	14,543,903.41	2,048,632.38	40° 2' 23.515 N	109° 32' 29.64
10,134.00	0.98	103.24	9,927.49	-460.18	-1,194.85	14,543,903.16	2,048,633.56	40° 2' 23,512 N	109° 32' 29.63
10,224.00	1.06	116.37	10,017.48	-460.72	-1,193.35	14,543,902.64	2,048,635.06	40° 2' 23.506 N	109° 32' 29.61
10,315.00	1.49	124.81	10,108.46	-461.77	-1,191.63	14,543,901.61	2,048,636.80	40° 2' 23.496 N	109° 32' 29.59
10,405.00	1.81	120.22	10,198.42	-463.16	-1,189.44	14,543,900.27	2,048,639.02	40° 2' 23.482 N	109° 32' 29.56
10,474.00	2,29	124.37	10,267.37	-464.48	-1,187.36	14,543,898.98	2,048,641.12	40° 2' 23.469 N	109° 32' 29.53

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COMPASS 5000.1 Build 40







Company:

Kerr McGee Oil and Gas Onshore LP

Project:

Uintah County, UT UTM12

Site: Well: NBU 921-15C PAD NBU 921-15C2S

Wellbore: Design: ОН

Local Co-ordinate Reference:

TVD Reference:

MD Reference: North Reference:

Survey Calculation Method:

Database:

Well NBU 921-15C2S

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

GL 4972' & KB 14' @ 4806.00ft (ENSIGN 145)

True

Minimum Curvature

EDM5000-RobertS-Local

SDI PRO	JECTION TO	TD							
10,532.00	2,29	124.37	10,325.33	-465.79	-1,185.45	14,543,897.70	2,048,643.05	40° 2′ 23.456 N	109° 32′ 29.513 W
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)	Latitude	Longitude
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Northing	Easting		
Measured			Vertical			Map	Map		
		<b>对所的与1076</b> 的	PARAGESTATI				SWEET SOFTS		
urvey	AREA 经保护证据 (1) AREA (4)								

Design Annotations			14.0449/161944000	1987년 - 전문을 사고 교육하면 1982년 교육원과 1982년 1882년
Measured	Vertical	Local Coord	linates	
Depth	Depth	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	Comment
183.00	183.00	-0.77	-0.44	FIRST SDI MWD SURFACE SURVEY
2,832.00	2,809.81	-76.29	-196,91	LAST SDI MWD SURFACE SURVEY
2,885.00	2,860.31	-82.09	-211.90	FIRST SDI MWD PRODUCTION SURVEY
10,474.00	10,267.37	-464.48	-1,187.36	LAST SDI MWD PRODUCTION SURVEY
10,532.00	10,325.33	-465.79	-1,185.45	SDI PROJECTION TO TD

Checked By:	Approved By:	Date:	
		<del></del>	

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DEC 0 5 2011

DIV. OF OIL, GAS & MINING